ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 257

[EPA–HQ–OLEM–2020–0107; FRL–7814–02–OLEM]

RIN 2050–AH14

Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; Legacy CCR Surface Impoundments

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: On April 17, 2015, the Environmental Protection Agency (EPA or the Agency) promulgated national minimum criteria for existing and new coal combustion residuals (CCR) landfills and existing and new CCR surface impoundments. On August 21, 2018, the United States Court of Appeals for the District of Columbia Circuit vacated the exemption for inactive surface impoundments at inactive facilities and remanded the issue back to EPA to take further action consistent with the opinion in *Utility Solid Waste Activities Group, et al.* v. *EPA.* The Agency is proposing to establish regulatory requirements for inactive surface impoundments at inactive facilities (legacy CCR surface impoundments). EPA is also proposing to establish groundwater monitoring, corrective action, closure, and post-closure care requirements for all CCR management units (regardless of how or when that CCR was placed) at regulated CCR facilities. EPA is also proposing several technical corrections to the existing regulations, such as correcting certain citations and harmonizing definitions.

DATES:

Comments due: Comments must be received on or before July 17, 2023.

Public Hearing: EPA will hold an in-person public hearing on June 28, 2023 and a virtual public hearing on July 12, 2023. Please refer to the **SUPPLEMENTARY INFORMATION** section for additional information on the public hearing.

ADDRESSES: You may send comments, identified by Docket ID No. EPA–HQ–OLEM–2020–0107, by any of the following methods:

- *Federal eRulemaking Portal: https://www.regulations.gov/* (our preferred method). Follow the online instructions for submitting comments.
- *Mail:* U.S. Environmental Protection Agency, EPA Docket Center, Office of Land and Emergency Management (OLEM) Docket, Mail Code 28221T, 1200 Pennsylvania Ave. NW, Washington, DC 20460.
- *Hand Delivery or Courier (by scheduled appointment only):* EPA Docket Center, WJC West Building, Room 3334, 1301 Constitution Avenue NW, Washington, DC 20004. The Docket Center's hours of operations are 8:30 a.m.–4:30 p.m., Monday–Friday (except Federal Holidays).

Instructions: All submissions received must include the Docket ID No. for this rulemaking. Comments received may be posted without change to *https://www.regulations.gov/,* including any personal information provided. For detailed instructions on sending comments and additional information on the rulemaking process, see the ''Public Participation'' heading of the **SUPPLEMENTARY INFORMATION** section of this document.

FOR FURTHER INFORMATION CONTACT: For questions concerning this proposal, contact Michelle Lloyd, Office of Resource Conservation and Recovery, Materials Recovery and Waste Management Division, Environmental Protection Agency, 1200 Pennsylvania Avenue NW, MC: 5304T, Washington, DC 20460; telephone number: (202) 566–0560; email address: *Lloyd.Michelle@epa.gov.* For more information on this rulemaking please visit *https://www.epa.gov/coalash.*

SUPPLEMENTARY INFORMATION:

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List of Acronyms

ACM Assessment of Corrective Measures
ANPRM Advance Notice of Proposed Rulemaking
ASD alternative source demonstration
CAA Clean Air Act
CBI Confidential Business Information
CCR coal combustion residuals
CCRMU coal combustion residuals management unit
CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
CFR Code of Federal Regulations
CWA Clean Water Act
EAP Emergency Action Plan
EJ environmental justice
ELG Effluent Limitation Guidelines
EPA Environmental Protection Agency
EPRI Electric Power Research Institute
FR Federal Register
GWMCA groundwater monitoring and corrective action
GWPS groundwater protection standard
HQ hazard quotient
HSWA Hazardous and Solid Waste Amendments
ICR Information Collection Request
LEAF Leaching Environmental Assessment Framework
MCL maximum contaminant level
NAICS North American Industry Classification System
NPDES National Pollution Discharge Elimination System
NPL National Priorities List
NTTAA National Technology Transfer and Advancement Act
OMB Office of Management and Budget
OSHA Occupational Safety and Health Administration
PM particulate matter
PRA Paperwork Reduction Act
PUC Public Utility Commission
QA/QC quality assurance/quality control
RCRA Resource Conservation and Recovery Act
RIA Regulatory Impact Analysis
SSI statistically significant increase
SSL statistically significant level
TDS total dissolved solids
TSCA Toxic Substances Control Act
TSDF Transportation Storage and Disposal Facility
USGS U.S. Geological Survey
USWAG Utility Solid Waste Activities Group
WIIN Water Infrastructure Improvements for the Nation

I. Public Participation

A. Written Comments

Submit your comments, identified by Docket ID No. EPA–HQ–OLEM–2020–0107, at *https://www.regulations.gov* (our preferred method), or the other methods identified in the **ADDRESSES** section. Once submitted, comments cannot be edited or removed from the docket. EPA may publish any comment received to its public docket. Do not submit to EPA's docket at *https://www.regulations.gov* any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment.

The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.,* on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www.epa.gov/dockets/commenting-epa-dockets.*

B. Participation in In-Person Public Hearing

EPA will begin pre-registering speakers for the hearing upon publication of this document in the **Federal Register**. To register to speak at the hearing, please use the online registration form available on EPA's CCR website (*https://www.epa.gov/coalash*) or contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section to register to speak at the hearing. The last day to pre-register to speak at the hearing will be June 26, 2023. On June 27, 2023, EPA will post a general agenda for the hearing on EPA's CCR website (*https://www.epa.gov/coalash*).

EPA will make every effort to follow the schedule as closely as possible on the day of the hearing; however, please plan for the hearings to run either ahead of schedule or behind schedule. Additionally, requests to speak will be taken the day of the hearing at the hearing registration desk. EPA will make every effort to accommodate all speakers who arrive and register, although preferences on speaking times may not be able to be fulfilled.

Each commenter will have five (5) minutes to provide oral testimony. EPA encourages commenters to provide EPA with a copy of their oral testimony electronically by emailing it to the person listed in the **FOR FURTHER INFORMATION CONTACT** section. EPA also recommends submitting the text of your oral comments as written comments to the rulemaking docket. If EPA is anticipating a high attendance, the time allotment per testimony may be shortened to no shorter than three (3) minutes per person to accommodate all those wishing to provide testimony and who have pre-registered. While EPA will make every effort to accommodate all speakers who do not preregister, opportunities to speak may be limited based upon the number of pre-registered speakers. Therefore, EPA strongly encourages anyone wishing to speak to preregister. Participation in the public hearing does not preclude any entity or individual from submitting a written comment.

EPA may ask clarifying questions during the oral presentations but will not respond to the presentations at that time. Written statements and supporting information submitted during the comment period will be considered with the same weight as oral comments and supporting information presented at the public hearing.

Please note that any updates made to any aspect of the hearing are posted online at EPA's CCR website at *https://www.epa.gov/coalash.* While EPA expects the hearing to go forward as set forth above, please monitor our website or contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section to determine if there are any updates. EPA does not intend to publish a document in the **Federal Register** announcing updates.

If you require the services of an interpreter or special accommodations such as audio transcription, please pre-register for the hearing with the person listed in the **FOR FURTHER INFORMATION CONTACT** section and describe your needs by June 14, 2023. EPA may not be able to arrange accommodations without advance notice.

C. Participation in Virtual Public Hearing

EPA will begin pre-registering speakers for the hearing upon publication of this document in the **Federal Register**. To register to speak at the hearing, please use the online registration form available on EPA's CCR website (*https://www.epa.gov/coalash*) or contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section to register to speak at the virtual hearing. The last day to pre-register to speak at the hearing will be July 10, 2023. On July 11, 2023, EPA will post a general agenda for the hearing on EPA's CCR website at: *https://www.epa.gov/coalash.*

EPA will make every effort to follow the schedule as closely as possible on the day of the hearing; however, please plan for the hearings to run either ahead of schedule or behind schedule. Additionally, requests to speak will be taken the day of the hearing according to the procedures specified on EPA's CCR website (*https://www.epa.gov/coalash*) for this hearing. The Agency will make every effort to accommodate all speakers who arrive and register, although preferences on speaking times may not be able to be fulfilled.

Each commenter will have five (5) minutes to provide oral testimony. EPA encourages commenters to provide the EPA with a copy of their oral testimony electronically (via email) by emailing it to person listed in the **FOR FURTHER INFORMATION CONTACT** section. If EPA is anticipating a high attendance, the time allotment per testimony may be shortened to no shorter than three (3) minutes per person to accommodate all those who wish to provide testimony and have pre-registered. While EPA will make every effort to accommodate all speakers who do not preregister, opportunities to speak may be limited based upon the number of preregistered speakers. Therefore, EPA strongly encourages anyone wishing to speak to preregister. Participation in the virtual public hearing does not preclude any entity or individual from submitting a written comment.

EPA may ask clarifying questions during the oral presentations but will not respond to the presentations at that time. Written statements and supporting information submitted during the comment period will be considered with the same weight as oral comments and supporting information presented at the public hearing. Verbatim transcripts of the hearings and written statements will be included in the docket for the rulemaking.

Please note that any updates made to any aspect of the hearing is posted online on EPA's CCR website at *https://www.epa.gov/coalash.* While the EPA expects the hearing to go forward as set forth above, please monitor our website or contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section to determine if there are any updates. EPA does not intend to publish a document in the **Federal Register** announcing updates.

If you require the service of a translator, please pre-register for the hearing and describe your needs by June 28, 2023. If you require special accommodations such as audio transcription or closed captioning, please pre-register for the hearing and describe your needs by June 28, 2023. We may not be able to arrange accommodations without advance notice. Registrants should notify the person listed in the **FOR FURTHER INFORMATION CONTACT** section and indicate on the registration form any such needs when they pre-register to speak.

II. General Information

A. Does this action apply to me?

This rule applies to and may affect all CCR generated by electric utilities and independent power producers that fall within the North American Industry Classification System (NAICS) code

221112. The reference to NAICS code 221112 is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This discussion lists the types of entities that EPA is now aware could potentially be regulated by this action. Other types of entities not described here could also be regulated. To determine whether your entity is regulated by this action, you should carefully examine the applicability criteria found in 40 CFR 257.50 of title 40 of the Code of Federal Regulations. If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the **FOR FURTHER INFORMATION CONTACT** section.

B. What action is the Agency taking?

EPA is proposing to amend the regulations governing the disposal of CCR in landfills and surface impoundments, codified in subpart D of part 257 of Title 40 of the Code of Federal Regulations (CFR) (CCR regulations). Specifically, the Agency is proposing to establish regulatory requirements for inactive CCR surface impoundments at inactive utilities (''legacy CCR surface impoundment'' or ''legacy impoundment''). This action is being proposed in response to the August 21, 2018, opinion by the U.S. Court of Appeals for the District of Columbia Circuit in *Utility Solid Waste Activities Group* v. *EPA,* 901 F.3d 414 (D.C. 2018) (''*USWAG* decision'' or ''*USWAG*'') that vacated and remanded the provision exempting legacy impoundments from the CCR regulations. This action includes adding a definition for legacy CCR surface impoundments and other terms relevant to this rulemaking. It also proposes to require that legacy CCR surface impoundments comply with certain existing CCR regulations with tailored compliance deadlines.

While this action is responsive to the D.C. Circuit's order, it is also driven by the record, which clearly demonstrates that regulating legacy CCR surface impoundments will have significant quantified and unquantified public health and environmental benefits. As EPA concluded in 2015, the risks posed by unlined CCR surface impoundments are substantial, and the risks from legacy impoundments are at least as significant. EPA's 2014 Risk Assessment concluded that the cancer risks from unlined surface impoundments ranged from 3×10^{-4} for trivalent arsenic to 4×10^{-5} for pentavalent arsenic. Non-cancer risks from these same units also significantly exceeded EPA's level of concern, with estimated Hazard Quotients (HQ) of two for thallium, three for lithium, four for molybdenum and eight for trivalent arsenic. In addition, as described in Unit IV.B.1 of this preamble, information obtained since 2015 indicates that the risks for legacy CCR surface impoundments are likely to be greater than EPA originally estimated. Finally, based on the demographic composition and environmental conditions of communities within one and three miles of legacy CCR surface impoundments, these proposals will reduce existing disproportionate and adverse effects on economically vulnerable communities, as well as those that currently face environmental burdens. For example, in Illinois the population living within 1 mile of legacy CCR surface impoundment sites is over three times as likely compared to the state average to have less than a high school education (35.66% compared to 10.10%, see RIA exhibit ES.14), and that population already experiences higher than average exposures to particulate matter, ozone, diesel emissions, lifetime air toxics cancer risks, and proximity to traffic, Superfund sites, Risk Management Plan sites, and hazardous waste facilities (see RIA exhibit ES.15). Following on the significant progress EPA has made over many decades to reduce dangerous pollution from coal-fired electric utilities' stack emissions and effluents, this proposed rule will help EPA further ensure that the communities and ecosystems closest to coal facilities are sufficiently protected from harm from groundwater contamination, surface water contamination, fugitive dust, floods and impoundment overflows, and threats to wildlife.

EPA is also proposing to establish requirements to address the risks from currently exempt solid waste management that involves the direct placement of CCR on the land.[1] EPA is proposing to extend a subset of the existing requirements in part 257, subpart D to CCR surface impoundments and landfills that closed prior to the effective date of the 2015 CCR Rule, inactive CCR landfills, and other areas where CCR is managed directly on the land. In this proposal, EPA refers to these as CCR management units, or CCRMU. This proposal would apply to all existing CCR facilities and all inactive facilities with legacy CCR surface impoundments subject to this proposed rule.

Finally, EPA is proposing a number of technical corrections to the existing regulations, such as correcting certain citations and harmonizing definitions.

EPA intends that the provisions of the rule be severable. In the event that any individual provision or part of the rule is invalidated., EPA intends that this would not render the entire rule invalid, and that any individual provisions that can continue to operate will be left in place.

In this proposal, EPA is not reconsidering, proposing to reopen, or otherwise soliciting comment on any other provisions of the existing CCR regulations beyond those specifically identified in this proposal. For the reader's convenience, EPA has provided a background description of existing requirements in several places throughout this preamble. In the absence of a specific request for comment and proposed change to the identified provisions, these descriptions do not reopen any of the described provisions. EPA will not respond to comments submitted on any issues other than those specifically identified in this proposal, and such comments will not be considered part of the rulemaking record.

C. What is the Agency's authority for taking this action?

EPA is publishing this notice under the authority of sections 1008(a), 2002(a), 4004, and 4005(a) and (d) of the Solid Waste Disposal Act of 1970, as amended by the Resource Conservation and Recovery Act of 1976 (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA) and the Water Infrastructure Improvements for the Nation (WIIN) Act of 2016, 42 U.S.C. 6907(a), 6912(a), 6944, 6945(a) and (d).

RCRA section 1008(a) authorizes EPA to publish ''suggested guidelines for solid waste management.'' 42 U.S.C. 6907(a). RCRA defines solid waste management as ''the systematic administration of activities which provide for the collection, source separation, storage, transportation, transfer, processing, treatment, and disposal of solid waste.'' 42 U.S.C. 6903(28).

Pursuant to section 1008(a)(3), the guidelines are to include the minimum criteria to be used by the states to define the solid waste management practices that constitute the open dumping of solid waste or hazardous waste and are prohibited as ''open dumping'' under section 4005. Only those requirements promulgated under the authority of

[1] Regulated CCR units consist of new and existing landfills and surface impoundments, including any lateral expansion of these units, as well as inactive CCR surface impoundments and legacy CCR surface impoundments.

section 1008(a)(3) are enforceable under section 7002 of RCRA.

RCRA section 4004(a) generally requires EPA to promulgate regulations containing criteria distinguishing ''sanitary landfills,'' which may continue to operate, from ''open dumps,'' which are prohibited. 42 U.S.C. 6944(a); *see id.* 6903(14), (26); 6945(a). The statute directs that, ''at a minimum, the criteria are to ensure that units are classified as sanitary landfills only if there is no reasonable probability of adverse effects on health or the environment from disposal of solid wastes at such facility.'' 42 U.S.C. 6944(a).

RCRA section 4005(a), entitled ''Closing or upgrading of existing open dumps,'' prohibits any solid waste management practices or disposal of solid waste that does not comply with EPA regulations issued under RCRA section 1008(a) and 4004(a). 42 U.S.C. 6945(a). See also 42 U.S.C. 6903(14) (definition of ''open dump''). This prohibition takes effect ''upon promulgation'' of any rules issued under section 1008(a)(3) and is enforceable either through a citizen suit brought pursuant to section 7002, or through an EPA enforcement action brought pursuant to section 4005(d)(4)(A). See 42 U.S.C. 6945(a), (d)(4)(A) (authorizing EPA to use the authority under RCRA section 3008(a) to enforce the open dumping prohibition for CCR). RCRA section 4005 also directs that open dumps (*i.e.,* facilities out of compliance with EPA's criteria), must be ''closed or upgraded.'' *Id.*

RCRA section 4005(d)(3) specifies that the regulations in 40 CFR part 257, subpart D ''(or successor regulations promulgated pursuant to sections 6907(a)(3) and 6944(a) of this title), shall apply to each CCR unit'' unless a permit issued by an approved state or by EPA is in effect. Similarly, section 4005(d)(6) [2] provides that:

> a CCR unit shall be considered to be a sanitary landfill for purposes of this chapter, including subsection (a), only if the coal combustion residuals unit is operating in accordance with [a permit issued by EPA or an approved State] or the applicable criteria for coal combustion residuals units under part 257 of title 40, Code of Federal Regulations (or successor regulations promulgated pursuant to sections 6907(a)(3) and 6944(a) of this title).

1. Regulation of Solid Wastes Under RCRA Subtitle D

Solid wastes that are neither a listed or characteristic hazardous waste are subject to the requirements of RCRA subtitle D. Subtitle D of RCRA establishes a framework for federal, state, and local government cooperation in controlling the management of nonhazardous solid waste. The federal role is to establish the overall regulatory direction by providing minimum nationwide standards that will protect human health and the environment. States may, but are not required to, adopt these requirements into their state programs.

Under RCRA section 4005(a), upon promulgation of criteria under section 1008(a)(3), any solid waste management practice or disposal of solid waste that constitutes the ''open dumping'' of solid waste is prohibited. The federal standards apply directly to the facility (are self-implementing) and facilities are directly responsible for ensuring that their operations comply with these requirements.

RCRA section 4005(d) establishes an additional regulatory structure, applicable exclusively to the solid waste management of CCR, that builds on the provisions in sections 1008(a)(3), 4004, and 4005(a), without restricting the scope of EPA's authority under those sections. See, 42 U.S.C. 6945 (d)(7). Under 4005(d), states may seek EPA approval of a state permitting program under which individualized facility permits would ''operate in lieu of [EPA] regulation of coal combustion residuals units in the State.'' 42 U.S.C. 6945(d)(1)(A). EPA is also directed to ''implement a permit program,'' which would operate in absence of an approved state program. 42 U.S.C. 6945(d)(2). However, the statute makes clear that facilities must continue to comply with the federal regulations until a permit issued by either EPA or an approved state is in effect. 42 U.S.C. 6945(d)(3), (6).

RCRA sections 1008(a)(3) and 4004(a) delegate broad authority to EPA to establish regulations governing the management of solid waste. Under section 4004(a) EPA is charged with establishing requirements to ensure that facilities will be classified as sanitary landfills and not an open dump ''only if there is no reasonable probability of adverse effects on health or the environment from the disposal of solid waste'' at the facility. Or in other words, under section 4004(a) EPA is charged with issuing regulations to address all ''reasonable probabilities of adverse effects'' (*i.e.,* all reasonably anticipated risks) to health and the environment from the disposal of solid waste. Section 1008(a)(3) expands EPA's authority to address the risks from any of the listed activities. Specifically, EPA is authorized to establish requirements applicable to ''storage, transportation, transfer, processing, treatment, and disposal of solid waste.'' (42 U.S.C. 6907(a), 6903(28)). Under RCRA, EPA sets these requirements without taking cost into account as a factor. *See USWAG et al.* v. *EPA,* 901 F.3d 414, 448–49 (D.C. Cir. 2018) (citing RCRA Section 4004(a)).

The statute is clear that EPA is authorized to issue regulations to address the current risks from previous solid waste management activities. EPA explained at length the basis for this conclusion as part of the Agency's rationale for regulating inactive impoundments. See, 80 FR 21344–21345. See also *USWAG, et al.* v. *EPA,* 901 F.3d 414 (D.C. Cir. 2018). Among other provisions, the statutory definition of an ''open dump'' conclusively resolves the question. RCRA defines an ''open dump'' as ''any facility or site where solid waste is disposed of . . . .'' 42 U.S.C. 6903(14). As the D.C. Circuit explained,

> Importantly, while the ''is'' retains its active present tense, the ''disposal'' takes the form of a past participle (''disposed''). In this way, the disposal itself can exist (it ''is''), even if the act of disposal took place at some prior time . . . . Properly translated then, an open dump includes any facility (other than a sanitary landfill or hazardous waste disposal facility), where solid waste still ''is deposited,'' ''is dumped,'' ''is spilled,'' ''is leaked,'' or ''is placed,'' regardless of when it might have originally been dropped off. *See* 42 U.S.C. 6903(3), (14). In other words, the waste in inactive impoundments ''is disposed of'' at a site no longer receiving new waste in just the same way that it ''is disposed of'' in at a site that is still operating.

901 F.3d at 440. *See also In re Consolidated Consol. Land Disposal Regulation Litig.,* 938 F.2d 1386, 1389 (D.C. Cir. 1991) (EPA's reading of the term ''disposal'' in RCRA's Subtitle C, 42 U.S.C. 6924, to include ''the continuing presence of waste'' was reasonable); *USWAG,* 901 F.3d at 453–54 (Henderson, J., concurring) (same). By the same logic, these provisions would authorize EPA to regulate closed units that continue to pose risks to health or the environment, for example by requiring the owners and operators of such units to remediate any contamination from these units, or to take action to prevent such contamination.

The 2016 amendments further confirm EPA's authority over these activities. In section 4005, Congress incorporated the 2015 regulations into the statute, and expressly stated that the amendments in 4005(d) were not intended to limit or restrict the authority already provided under sections 1008(a)(3) and 4004(a). See, 42

[2] 42 U.S.C. 6945(d)(6).

U.S.C. 6945(d)(3), (6), (7). EPA also considers that with these amendments, Congress has affirmed the Agency's authority to impose the kind of requirements established in part 257 (*e.g.,* corrective action to remediate groundwater contamination). Moreover, Congress made clear that EPA retains the authority to modify or expand these requirements as necessary to ensure that the standard in section 4004(a) will continue to be met. See, *e.g.,* 42 U.S.C. 6945(d)(1)(A)(i), (3), (6) (referencing ''or successor regulations promulgated pursuant to sections 6907(a)(3) and 6944(a) of this title'').

EPA interprets the standard in section 4004(a) to apply equally to criteria issued under sections 1008(a)(3) and 4004(a); namely that the criteria must ensure that a facility is to be classified as a sanitary landfill, and thus allowed to continue to operate, ''only if there is no reasonable probability of adverse effects on health or the environment'' from either the disposal or other solid waste management practices at the facility. Thus, under the combined authority conferred by sections 1008(a)(3) and 4004(a), a facility is an ''open dump'' if it engages in any activity involving the management of solid waste that does not meet the standard in section 4004(a); or in other words, any activity involved with the management of solid waste that presents a reasonable probability of causing adverse effects on health or the environment. EPA also interprets these provisions to authorize the establishment of criteria that define the manner in which facilities upgrade or close, consistent with the standard in section 4004(a), to ensure there will be no reasonable probability of adverse effects on health or the environment.

D. What are the incremental costs and benefits of this action?

As noted previously, EPA establishes the requirements under RCRA sections 1008(a)(3) and 4004(a) without taking cost into account. *See, USWAG,* 901 F.3d at 448–49. This action is expected to result in costs amounting to between $356 million and $413 million per year when discounting at 3% and 7% respectively.

Of the $413 million per year estimated at a 7% discount rate, $237 million is attributable to the requirements for legacy CCR surface impoundments, which are subject to the D.C. Circuit's order in *USWAG,* $170 million is attributable to the requirements for CCRMU, and $6 million is attributable to requirements for landfills. Of the $356 million per year estimated at a 3% rate, $204 million is attributable to the requirements for legacy CCR surface impoundments, $146 million is attributable to the requirements for CCRMU, and $6 million is attributable to requirements for landfills. The costs of this proposed rule are discussed further in the RIA, and include the costs of unit closure, corrective action, fugitive dust controls, structural integrity inspections, and recordkeeping and reporting. These cost estimates are subject to a number of limitations and uncertainties, and EPA has, for example, made the conservative assumption that all closures will be by removal, which is a simplified but higher-cost compliance option.

This action is expected to result in monetized benefits amounting to between $77 million and $49 million per year when discounting at 3% and 7% respectively, as well as a variety of unquantified benefits of unknown magnitude. Of the $49 million in annualized monetized benefits estimated at a 7% discount rate, $30 million is attributable to the requirements for legacy CCR surface impoundments, $16 million is attributable to the requirements for CCRMU, and $3 million is attributable to requirements for landfills. Of the $77 million in annualized monetized benefits estimated at a 3% discount rate, $47 million is attributable to the requirements for legacy CCR surface impoundments, $25 million is attributable to the requirements for CCRMU, and $5 million is attributable to requirements for landfills. The monetized benefits of this proposed rule are discussed further in the RIA, and includes partial estimates of the benefits from reduced incidents of cancer, avoided intelligence quotient (IQ) losses from mercury and lead exposure and the subsequent reduced need for specialized education, non-market benefits of water quality improvements, and the protection of threatened and endangered species. EPA also monetized the benefits of avoided impoundment failures, including both ''catastrophic'' failures and smaller-volume releases. One example of a severe impoundment failure is the Dan River Steam Station failure which occurred in 2014, when a stormwater drainage pipe under the inactive surface impoundments at the Dan River Steam Station caused the inadvertent release of 39,000 tons of CCR directly into the nearby Dan River. The result high-end estimate of the costs of this impoundment failure is $300 million. EPA requests comment and data on other examples of CCR releases from inactive CCR impoundments.

EPA's benefits estimates are subject to a number of limitations and uncertainties, and many key categories of benefits could not be quantified or monetized. Unquantified benefits may be of equal or greater magnitude than quantified benefits but are difficult to quantify because sufficient data or adequate methodologies are not available. For example, EPA was only able to quantify the subset of human health effects for which established dose-response relationships have been studied and accepted for economic analyses. Consequently, EPA was unable to quantify most of the human health and ecological benefits associated with the proposed rule. Specifically, EPA was only able to quantify the benefits associated with: (1) Reduced incidence of two kinds of skin cancer [3] from exposure to arsenic III and V in drinking water from private wells, and (2) With reduced neurologic and cognitive damages from exposure to lead and mercury from fish consumption. However, arsenic is also correlated with liver, lung, bladder, and kidney cancer,[4] all of which are associated with higher costs and higher rates of mortality than the skin cancers used in the quantified benefits assessments. Similarly, toxins such as thallium, molybdenum, and lithium are commonly present in CCR,[5] and as discussed in Unit IV.B.2 of this preamble, have been detected at statistically significant levels at several utilities, but because EPA lacks the data to create dose-response relationships between ingestion rates and specific health endpoints, EPA could not quantify the associated benefits in the RIA. A broad overview of specific contaminants and their likely health effects can be found in Chapter 4 of the RIA and in Appendix B.

Another unquantified benefit arises from the expected increase in severe weather events due to climate change. Many legacy impoundments and CCRMU are located along rivers or the coast, where they are at risk of leaking waste and possibly failing when severe weather causes the units to flood and overtop. The proposed rule will address this baseline risk by requiring closure

[3] EPA evaluated basal cell carcinoma and squamous cell carcinoma, but was unable to quantify costs associated with Bowen's disease (or carcinoma in situ), another of the most common forms of skin cancer.

[4] U.S. Environmental Protection Agency (2014, December). Human and ecological risk assessment of coal combustion residuals. Regulation Identifier Number: 2050–AE81, citing U.S. EPA. IRIS Chemical Assessment Summary for arsenic, inorganic; CASRN 7440–38–2. Last updated December 3, 2002.

[5] Id.

and corrective action at legacy units and CCRMU. This reduction in risk yields potentially significant benefits, however the data and methodology to quantify the base rate and post-rule rate of unit leakage and failure due to weather related flooding and overtopping are not available. Thus, this benefit category is unquantified.

Finally, another significant source of unquantified benefits comes from the protection and remediation of the groundwater contaminated by a legacy CCR surface impoundment or CCRMU as at many sites this groundwater is a potential future source of drinking water or other uses. This is distinct from the benefits associated with reducing the risks from contaminants migrating into drinking water wells or surface waters, reduced risks that rely on the presence of a receptor. As EPA explained in the preamble to the original 1979 regulations, sources of drinking water are finite, and future users' interests must also be protected. See, 44 FR 53445–53448.

In the United States, groundwater is the source of drinking water for about half the total population; it is about 33% of the water that County and city water departments supply to households and businesses. It provides drinking water for more than 90% of the rural population who do not get their water delivered to them from a county/city water department or private water company.[6] It also provides over 50 billion gallons per day for agricultural needs. The volume of available and useable groundwater is decreasing in many areas of the United States.[7] A significant number of legacy CCR surface impoundments and CCRMU are located in areas that, according to the U.S. Geological Survey (USGS), are experiencing significant groundwater decline and depletion.[8] For example, EPA estimates that 8 potential legacy CCR surface impoundments are located in Iowa, and 20 potential CCRMU are located in Illinois (12) and Minnesota (8); USGS has estimated that these areas experienced 10–25 cubic kilometers of cumulative annual groundwater depletion between 1900 and 2008.[9] Simply stated, the resource is becoming more scarce. Commensurately, the value of groundwater as a resource for agriculture, drinking water, and other purposes is increasing. In the context of such widespread declines in the overall availability of this critical resource, this proposed rule—which will increase the supply of potable water by requiring the remediation of groundwater contaminated by CCRMU and legacy CCR surface impoundments, and by preventing further reductions in the supply of useable groundwater from degradation and contamination from CCRMU or legacy CCR surface impoundments—is expected to provide significant and substantial benefits.

Neighborhoods located near legacy CCR surface impoundments and CCRMU are disproportionately occupied by people already vulnerable to elevated environmental risks. These vulnerable communities face risks of impoundment failure, groundwater contamination, and fugitive air emissions. EPA expects these communities would be afforded substantial protection from the proposed rule. In addition, CCR units, built without liners and other precautionary measures, may depress property values in nearby neighborhoods. Improvements in home values resulting from the proposed rule has the potential to bestow welfare gains to homeowners located near legacy CCR surface impoundments and CCRMU. Although EPA has designed its proposal based on its statutory factors and court precedent and has not relied on this benefit-cost analysis in the selection of its proposed alternative, EPA believes that after considering all unquantified and distributional effects, the public health and welfare gains that will result from the proposed alternative would justify the rule's costs.

Further information on the economic effects of this action can be found in Unit VII of this preamble.

III. Background

A. 2015 CCR Rule

On April 17, 2015, EPA finalized national minimum criteria for the disposal of CCR as solid waste under Subtitle D of RCRA titled, ''Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities'' (80 FR 21302) (2015 CCR Rule). The 2015 CCR Rule, codified in 40 CFR part 257, subpart D, established regulations for existing and new CCR landfills, as well as existing and new CCR surface impoundments (including all lateral expansions of CCR units). The criteria consist of location restrictions, design and operating criteria, groundwater monitoring and corrective action requirements, closure and post-closure care requirements, recordkeeping, notification, and internet posting requirements.

The 2015 CCR Rule also imposed requirements on inactive surface impoundments at active facilities. A CCR surface impoundment is a natural topographic depression, man-made excavation, or diked area, which is designed to hold an accumulation of CCR and liquids, and treats, stores, or disposes of CCR. The 2015 CCR Rule defined an ''inactive CCR surface impoundment'' as ''a CCR surface impoundment that no longer receives CCR on or after October 19, 2015, and still contains both CCR and liquids on or after October 19, 2015.'' 40 CFR 257.53. The rule defined ''active facility or active electric utilities or independent power producers'' as ''any facility subject to the requirements of this subpart that is in operation on October 19, 2015. An electric utility or independent power producer is in operation if it is generating electricity that is provided to electric power transmission systems or to electric power distribution systems on or after October 19, 2015. An off-site disposal facility is in operation if it is accepting or managing CCR on or after October 19, 2015.'' 40 CFR 257.53.

The 2015 CCR Rule did not impose any requirements on inactive facilities. EPA explained that this was consistent with past decisions under subtitle C, in which EPA declined to extend permitting obligations to closed and inactive disposal facilities in light of specific language in RCRA sections 3004 and 3005, and the practical difficulties in applying those requirements to inactive facilities (*e.g.,* the difficulty in identifying owners or other responsible parties, and in implementing requirements in the absence of an entity currently engaged in disposal). 80 FR 21344 (April 17, 2015). EPA further raised concerns that the present owner of the land on which an inactive site was located might have no connection (other than present ownership of the land) with the prior disposal activities. *Id.* Consequently, EPA exempted those units at § 257.50(e).

B. 2018 USWAG Decision

The 2015 CCR Rule was challenged by several parties, including coalitions of regulated entities and environmental organizations (''Environmental Petitioners''). Environmental Petitioners raised two challenges that are relevant to this proposal. First, they challenged the provision that allowed existing, unlined surface impoundments to continue to operate until they exceeded

[6] U.S. Department of the Interior, U.S. Geological Survey, *https://www.usgs.gov/special-topics/water-science-school/science/groundwater-decline-and-depletion.*

[7] Id. at *https://www.usgs.gov/special-topics/water-science-school/science/groundwater-decline-and-depletion.*

[8] U.S. Department of the Interior, U.S. Geological Survey, Groundwater Depletion in the United States (1900–2008), available at *https://pubs.usgs.gov/sir/2013/5079/SIR2013-5079.pdf.*

[9] Id. at 12.

the groundwater protection standard. *See* § 257.101(a)(1). They contended that EPA failed to show how continued operation of unlined impoundments met RCRA's baseline requirement that any solid waste disposal site pose, ''no reasonable probability of adverse effects on health or the environment.'' 42 U.S.C. 6944(a). Second, Environmental Petitioners challenged the exemption for inactive surface impoundments at inactive power plants (*i.e.,* ''legacy ponds''). Environmental Petitioners argued that legacy ponds are at risk of unmonitored leaks and catastrophic structural failures.

On August 21, 2018, the U.S. Court of Appeals for the D.C. Circuit upheld most of the 2015 CCR Rule but decided in favor of Environmental Petitioners on these two claims. The Court held that EPA acted ''arbitrarily and capriciously and contrary to RCRA'' in failing to require the closure of unlined surface impoundments [10] and in exempting inactive surface impoundments at inactive power plants from regulation. The Court vacated these provisions and remanded the matter back to the Agency for further action consistent with its opinion. *USWAG et al.* v. *EPA,* 901 F.3d 414 (D.C. Cir. 2018).

In overturning the exemption for legacy ponds, the Court evaluated the evidence in the rulemaking record and reached specific conclusions about the risks that legacy ponds pose. The Court pointed to evidence that legacy ponds are most likely to be unlined and unmonitored and that such units have been shown to be more likely to leak than units at utilities still in operation. 901 F.3d at 432. The Court also determined that legacy ponds:

> . . . pose the same substantial threats to human health and the environment as the riskiest Coal Residuals disposal methods, compounded by diminished preventative and remediation oversight due to the absence of an onsite owner and daily monitoring. *See* 80 FR at 21343 through 21344 (finding that the greatest disposal risks are ''primarily driven by the older existing units, which are generally unlined''). Notably, this very Rule was prompted by a catastrophic legacy pond failure that resulted in a ''massive'' spill of 39,000 tons of coal ash and 27 million gallons of wastewater into North Carolina's Dan River.
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> . . .
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> [T]here is no gainsaying the dangers that unregulated legacy ponds present. The EPA itself acknowledges the vital importance of regulating inactive impoundments at active facilities. That is because, if not properly closed, those impoundments will ''significant[ly]'' threaten ''human health and the environment through catastrophic failure'' for many years to come. 75 FR at 35,177; *see also* 80 FR at 21,344 n. 40.
>
> The risks posed by legacy ponds are at least as substantial as inactive impoundments at active facilities. *See* 80 FR at 21,343–21, 344 (finding ''no [ ] measurabl[e] differen[ce]'' in risk of catastrophic events between active and inactive impoundments). And the threat is very real. Legacy ponds caused multiple human and environmental disasters in the years leading up to the Rule's promulgation. *See* 75 FR at 35,147 (proposed rule discusses multiple serious incidents). For example, a pipe break at a legacy pond at the Widows Creek plant in Alabama caused 6.1 million gallons of toxic slurry to deluge local waterways. *Id.* Another legacy pond in Gambrills, Maryland caused the heavy metal contamination of local drinking water. *Id.* And the preamble to the Rule itself specifically points to the catastrophic spill at the Dan River legacy pond in North Carolina. 80 FR at 21,393–21,394.

Id. at 432–433. Relying on this evidence, the Court concluded there was no logical basis for distinguishing between the inactive impoundments at active facilities that were regulated and the legacy impoundments that were exempt. *Id.* at 434. Consequently, the Court vacated the provision of the 2015 CCR Rule that specifically exempted inactive impoundments at inactive facilities from regulation and remanded the matter back to EPA for further action consistent with its opinion. *See* § 257.50(e). Notwithstanding the vacatur of § 257.50(e), until EPA amends the regulations to effectuate the Court's order, facilities are not legally obliged to take any action to comply with the federal CCR regulations. This is because, as currently drafted, § 257.50 of the federal CCR regulations is not applicable to inactive surface impoundments at inactive facilities.

C. 2020 Advance Notice of Proposed Rulemaking

On October 14, 2020, EPA published an Advance Notice of Proposed Rulemaking (ANPRM) (85 FR 65015). In that action, EPA requested information related to ''legacy'' CCR surface impoundments to inform a future rulemaking. The Agency requested input on its regulatory authority, input on a potential definition of a legacy CCR surface impoundment and specific information on the types of inactive surface impoundments at inactive facilities that might be considered legacy CCR surface impoundments. Specifically, EPA requested information on how many of these units exist, the current status of these units (*e.g.,* capped, dry, closed according to state requirements, still holding water), and the names, locations, and closure dates of former power plants that may have these units. Finally, the Agency took comment on which CCR regulations should apply to legacy CCR surface impoundments and on suggestions for compliance deadlines.

During the 60-day public comment period, the Agency received over 15,000 comments from environmental groups, four states, one tribe, individual utilities, and industry trade associations. The topics raised in comments included a potential definition of a legacy CCR surface impoundment, EPA's regulatory authority, the scope and applicability of the legacy impoundment rule, and regulatory requirements to propose. Moreover, the comments generally agreed that EPA must prescribe timeframes for coming into compliance with the regulations and they recommended timeframes that are shorter than compliance timeframes in the 2015 CCR Rule. The remaining comments received are discussed in subsequent units of this preamble.

As noted, EPA took comment on whether, in light of the Court's opinion in *USWAG,* the Agency could reconsider whether it has the authority to regulate inactive impoundments under RCRA subtitle D. 85 FR 65017–65018 (Oct 14, 2020). The general consensus from commenters on the ANPRM was that, because the Court resolved the question based on the plain meaning of the statute, EPA does not have the discretion to reinterpret its authority. In addition, no commenter identified a factual basis for not regulating legacy CCR surface impoundments that addressed the Court's concern about the risks these units pose. *Id.* at 65018. Consequently, EPA is not revisiting the question of whether it may regulate inactive or legacy CCR surface impoundments.

IV. What is EPA Proposing?

In response to the *USWAG* decision, EPA is proposing to include a provision at § 257.50(e), specifying that inactive surface impoundments at inactive facilities (''legacy CCR surface impoundments'') are subject to 40 CFR part 257, subpart D. EPA is also proposing that owners and operators of legacy CCR surface impoundments comply with all the appropriate requirements applicable to inactive CCR surface impoundments at active facilities. Specifically, EPA is proposing that owners and operators of legacy CCR surface impoundments comply with the following existing requirements in the CCR regulations: structural stability assessments, air criteria, inspections,

[10] The closure of unlined CCR surface impoundments was addressed in a separate regulatory action that was published on August 28, 2020 (85 FR 53516).

groundwater monitoring and corrective action, closure and post-closure care, recordkeeping, and notification and publicly accessible internet site requirements. EPA is further proposing to establish different compliance deadlines for these newly applicable regulatory requirements to ensure the owners and operators of these units have time to come into compliance.

In addition to the revisions EPA is proposing to address the *USWAG* decision, EPA is proposing to establish requirements to address the risks from currently exempt solid waste management that involves the direct placement of CCR on the land.[11] EPA is proposing to extend a subset of the existing requirements in part 257, subpart D to CCR surface impoundments and landfills that closed prior to the effective date of the 2015 CCR Rule, inactive CCR landfills, and other areas where CCR is managed directly on the land. In this proposal, EPA refers to these as CCR management units, or CCRMU. This proposal would apply to all existing CCR facilities and all inactive facilities with legacy CCR surface impoundments subject to this proposed rule.

Lastly, EPA is proposing to make several technical corrections to the CCR regulations. These are (1) to clarify the definitions of ''feasible'' and ''technically feasible''; (2) to correct the CFR reference in the definition of wetlands at § 257.61(a); (3) to correct a reference in the groundwater monitoring scope section; (4) to standardize the references to CCR websites throughout the CCR regulations; and (5) EPA is taking comment on extending the period for document retention and posting.

A. Legacy CCR Surface Impoundment Requirements

The Agency is proposing that the existing requirements of the CCR regulations in 40 CFR part 257, subpart D that apply to inactive CCR impoundments at active facilities would apply to legacy CCR surface impoundments, except for the location restrictions and liner design criteria. EPA is also proposing to establish new requirements to address issues specific to legacy CCR surface impoundments. Finally, EPA is proposing to establish new compliance deadlines for legacy CCR surface impoundments.

[11] Regulated CCR units consist of new and existing landfills and surface impoundments, including any lateral expansion of these units, as well as inactive CCR surface impoundments and legacy CCR surface impoundments.

1. Scope—Definition of Legacy CCR Surface Impoundments

EPA received numerous comments on three options for defining legacy CCR surface impoundments in the ANPRM. The Agency considered those comments, as well as the other information available to EPA in the record and the *USWAG* decision in developing this proposal. Based on EPA's review, the Agency is proposing to define a *legacy CCR surface impoundment* as ''a surface impoundment that is located at a power plant that ceased generating power prior to October 19, 2015, and the surface impoundment contained both CCR and liquids on or after the effective date of the 2015 CCR Rule (*i.e.,* October 19, 2015).'' This Unit of the preamble also responds to comments questioning how EPA intends to interpret ''contains liquids and CCR'' and ''inactive facility.''

a. Legacy CCR Surface Impoundment—Date for Determining Applicability.

As previously explained, the 2015 CCR Rule exempted ''inactive surface impoundments at an inactive facility'' and provided definitions of an ''inactive CCR surface impoundment'' and an ''active facility or active electric utility.'' See 80 FR 21469–21471. Thus, in developing a definition of a *legacy CCR surface impoundment* two separate components need to be addressed: (1) The definition of an ''inactive CCR surface impoundment,'' and (2) The definition of an ''inactive facility or electric utility.'' EPA relied on the existing definitions of an inactive CCR surface impoundment and an active facility or active electric utility, as well as the *USWAG* decision to inform the options provided in the ANPRM. See 80 FR 21469–21471. Specifically, both terms establish applicability based in part on the effective date of the 2015 CCR Rule—a unit is an ''inactive CCR surface impoundment'' if it does not receive CCR on or after October 19, 2015, and still contains both CCR and liquids on October 19, 2015, and an ''active facility or active electric utilities or independent power producers'' is only active if it was in operation on October 19, 2015. 40 CFR 257.53. Thus, the ANPRM sought comment on whether to define a legacy CCR surface impoundment as: A surface impoundment that is located at a power plant that ceased generating power prior to October 19, 2015, and

- Option 1—the surface impoundment contained both CCR and liquids on the effective date of the 2015 CCR Rule (*i.e.,* October 19, 2015); or
- Option 2—the surface impoundment contained both CCR and liquids on the date the Court issued its mandate for the August 21, 2018, court decision (*i.e.,* October 15, 2018); or
- Option 3—the surface impoundment contains both CCR and liquids on the date EPA issues a final rule bringing legacy CCR surface impoundments under the federal regulations.

i. Description of the ANPRM Options

Option 1 was based on October 19, 2015, which is the effective date of the 2015 CCR Rule. Under this approach a CCR surface impoundment at an inactive facility or electric utility that contained both CCR and liquids on October 19, 2015, would be regulated as a legacy CCR surface impoundment. Impoundments that contained both CCR and liquids prior to October 19, 2015, but not after this date, would not be subject to the new requirements under this option (*e.g.,* the facility took actions prior to October 19, 2015, to permanently remove liquids from the unit).

The first option is based on the Court's finding in the *USWAG* decision that there was no basis in the record on which to differentiate between legacy CCR surface impoundments and inactive CCR surface impoundments at active facilities in the 2015 CCR Rule. In the decision, the Court concluded there was no logical basis for distinguishing between inactive impoundments at active facilities that were regulated and inactive impoundments at inactive facilities that were exempt, and therefore vacated the exemption for legacy CCR surface impoundments in § 257.50(e). In the regulations, an inactive CCR surface impoundment at an active facility is defined as a ''CCR surface impoundment that no longer receives CCR on or after October 19, 2015, and still contains both CCR and liquids on or after October 19, 2015.'' Thus, under Option 1 the date the unit contained both CCR and liquids used in the definition of a legacy CCR surface impoundment would be identical to that used for inactive impoundments at active facilities, that is, October 19, 2015.

Option 2 was based on October 15, 2018, which is the date the Court issued the mandate for the *USWAG* decision that vacated and remanded the regulatory provision exempting legacy CCR surface impoundments from the CCR regulations. Under this approach a CCR surface impoundment at an inactive facility or electric utility that contained both CCR and liquids on October 15, 2018, would be regulated as

a legacy CCR surface impoundment. Impoundments that contained both CCR and liquids prior to October 15, 2018, but not after this date, would not be subject to the new requirements under this option (*e.g.,* the facility took actions prior to October 15, 2018, to permanently remove liquids from the unit).

Option 3 was based on the effective date of a final rule bringing legacy CCR surface impoundments under the federal CCR regulations. Under this approach a CCR surface impoundment at an inactive facility or electric utility that contained both CCR and liquids on the effective date of the final rule would be regulated as a legacy CCR surface impoundment. Impoundments that contained both CCR and liquids prior to the effective date of the final rule, but not after this date, would not be subject to the new requirements.

Underpinning Option 3 is the concept that it may be difficult for some owners and operators of inactive facilities to determine whether a legacy CCR surface impoundment at its facility previously contained both CCR and liquids at a specific point in the past. For example, under Options 1 and 2, the demarcation date in the definition will be approximately nine and six years in the past, respectively, at the time the final rule is anticipated to be published and effective. Furthermore, the third option could eliminate possible regulatory confusion for legacy CCR surface impoundments that contained liquids and CCR on the demarcation date specified in the definition (*e.g.,* October 19, 2015, under Option 1) but are subsequently closed by the effective date of the final rule. An example of this situation using a cutoff date based on Option 1 would be a legacy CCR surface impoundment that was closed by removal of CCR in 2020. Under Option 3 the legacy CCR surface impoundment in this example would not be subject to the new rulemaking requirements because it did not contain both CCR and liquids on or after the effective date of the legacy CCR surface impoundment final rule.

Of the three options discussed in the ANPRM, EPA believes that Option 1 is arguably the most consistent with the *USWAG* decision and the most protective option. As discussed in the preceding Unit, the Court expressly found that EPA's record for the 2015 CCR Rule demonstrated that legacy ponds ''pose the same substantial threats to human health and the environment as the riskiest Coal Residuals disposal methods, compounded by diminished preventative and remediation oversight due to the absence of an on-site owner and daily monitoring.'' 901 F.3d at 432. Under Option 1 there would be no distinction between legacy CCR surface impoundments and the currently regulated inactive impoundments at active facilities. In addition, the intended effect of a vacatur is to restore the status quo, to what it would have been if the vacated provision had never existed. Here, that means legacy CCR surface impoundments would have been regulated by the 2015 CCR Rule. By choosing to vacate the provision, rather than remanding it back to the Agency, the Court made clear that its intent was for these units to immediately be subject to regulation. The fact that the vacatur did not achieve that does not change the court's intent.

ii. What comments did EPA receive on the options?

Summary of Comments on Option 1. Some commenters stated that inactive surface impoundments at inactive facilities should be treated no differently than active and inactive surface impoundments at active facilities. These commenters therefore supported Option 1 and explained that the regulations should similarly apply to inactive impoundments at inactive facilities containing CCR and liquids on October 19, 2015. Other commenters opposed Option 1 because they considered that it would represent the retroactive application of regulations and, in some cases, the application of fundamentally inapplicable requirements to units that are no longer surface impoundments because they no longer contain CCR and/or liquids. These commenters identified impoundments that have been dewatered, excavated, and closed pursuant to state oversight as an example of impoundments that would not be appropriate candidates for subsequent regulatory requirements because these units are no longer functioning as impoundments based on actions taken by facilities since October 19, 2015.

Other commenters stated that the definition for Option 1 (as well as Options 2 and 3) was too narrow and fails to address the universe of inactive impoundments at inactive facilities that pose a reasonable probability of adverse effects on health or the environment from the disposal of CCR. According to the comments, this is because Option 1 conditions regulation of legacy CCR surface impoundments on arbitrary dates on which the impoundments contained both CCR and liquids. These commenters stated that the definition must include high-risk impoundments (such as impoundments located in floodplains and unstable areas and units with bases inundated by groundwater), regardless of age or condition, because of the likelihood that they are causing or will cause adverse effects to health and the environment, including impoundments located in floodplains and unstable areas and units with bases inundated by groundwater. In addition, the commenters state that the definition of a legacy CCR surface impoundment must include units that were not closed in a manner consistent with the regulations because a unit without a sufficient final cover system will allow precipitation into the unit and will produce leachate.

Summary of Comments on Option 2. No commenters exclusively supported Option 2 over the other two options discussed in the ANPRM. Commenters disfavoring Option 2 did so for the same reasons as summarized for Option 1, largely stating that Option 2 ignores the current status of legacy CCR surface impoundments, inaccurately assesses current risks from these units, and disregards work and actions taken by facilities since August 21, 2018 (*e.g.,* removal of waste from the units, closure of the units). In addition, other commenters stated that Option 2 fails to meet the RCRA protectiveness standard for reasons discussed under Option 1.

Summary of Comments on Option 3. Several commenters supporting Option 3 stated that the definition of legacy CCR surface impoundments should be based on the scope of units identified in the 2018 *USWAG* decision. These commenters explained that the Court was concerned with the risks associated with lack of regulatory oversight over inactive CCR surface impoundments that contain impounded water, and therefore EPA's definition of a legacy CCR surface impoundment should similarly be those impoundments containing CCR and liquids on the effective date of the legacy CCR surface impoundment final rule. Finally, commenters stated that it is both impractical and unnecessary to look backwards to determine the historic regulatory status of a unit (*e.g.,* to determine whether the impoundment contained CCR and liquids at a particular time), or to require impoundments that have already closed to re-close under this rulemaking.

Some commenters said that Option 3 would avoid inclusion of effectively dry impoundments that are similar to inactive CCR landfills, which are not regulated under the 2015 CCR Rule. Another commenter stated that units maintained by its members provide good examples of units that it believed

would not be appropriate candidates for new federal CCR regulation as legacy CCR surface impoundments. For instance, the commenter pointed to the units at the Riverbend Steam Station in Mount Holly, North Carolina, which the commenter stated underwent dewatering from 2014 through 2019 as part of the excavation process. In accordance with the facility's NPDES permit, the water was pumped to the on-site wastewater treatment facility for eventual discharge to the adjacent waterbody. Ash removal began in 2015 and was completed in 2019. The two ash basins at the Riverbend Steam Station have been excavated, and the dams for the facility's primary and secondary ash basins have been removed. According to the commenter, groundwater monitoring subject to state regulations and state-approved closure plans is ongoing. Finally, the commenter stated that the site has been regraded and seeded with grass. The commenter also pointed to Scholz Electric Generating Plant in Sneads, Florida, which has a 40-acre unit that was retired in April 2015 and ceased receipt of waste in 2015. According to the commenter, the facility is currently in its third year of closure construction and is subject to a June 2015 court-approved settlement agreement for closure as well as an August 2016 closure plan approved by the Florida Department of Environmental Protection.

The commenter also referenced the ash slurry settling ponds at the active Coronado Generating Station located in Saint Johns, Arizona. According to the commenter, the ponds, which are approximately 87 acres in size, were constructed in the mid-2000s and operated until early 2010 when the facility ceased placement of CCR material in the ponds. When in use, the ponds were utilized for CCR and non-CCR waste disposal, non-recyclable plant wastewater, scrubber sludge, and fly ash, all of which were wet sluiced to the ponds. The commenter stated that closure of the ponds was completed in April 2019 in accordance with all applicable State of Arizona Aquifer Protection Permitting (APP) rules, and all required CCR and APP documentation have been posted to the CCR public website and submitted to the Arizona Department of Environmental Quality (ADEQ). The commenter also stated that the ponds are currently in post-closure care in accordance with ADEQ APP regulations, including groundwater monitoring and reporting that will continue for 30 years from the date of closure. According to the commenter, none of these units are currently functioning as ponds, and therefore regulating these types of units at inactive plants would represent a retroactive application of inapplicable and redundant requirements. The commenter further stated that many utilities are in the process of dewatering and closing additional legacy CCR surface impoundments as part of a comprehensive, fleetwide ash basin closure program.

iii. Response to Comments and Proposed Option

As noted above, the Agency is proposing to define a legacy CCR surface impoundment, in part, as a surface impoundment that contained both CCR and liquids on or after October 19, 2015. Of the three options discussed in the ANPRM, EPA believes that Option 1 is the most consistent with the *USWAG* decision. As discussed in the preceding Unit, the Court expressly found that EPA's record for the 2015 CCR Rule demonstrated that legacy ponds ''pose the same substantial threats to human health and the environment as the riskiest Coal Residuals disposal methods, compounded by diminished preventative and remediation oversight due to the absence of an on-site owner and daily monitoring.'' 901 F.3d at 432. Under Option 1 there would be no distinction between legacy CCR surface impoundments and the currently regulated inactive impoundments at active facilities. In addition, the intended effect of a vacatur is to restore the status quo, to what it would have been if the vacated provision had never existed. Here, that means legacy CCR surface impoundments would have been regulated by the 2015 CCR Rule. By choosing to vacate the provision, rather than remanding it back to the Agency, the Court made clear that its intent was for these units to immediately be subject regulation. The fact that the vacatur did not achieve that does not change the Court's intent.

In addition, EPA is not persuaded by the commenters' objections to this option. EPA disagrees that reliance on the effective date of the 2015 CCR Rule would constitute a retroactive application of law. For a regulation to be retroactive, it must change the prior legal status or consequences of past behavior. See *Landgraf* v. *USI Film Products,* 511 U.S. 244, 269, n.4 (1994) (A rule ''is not made retroactive merely because it draws upon antecedent facts for its operation.''); *Treasure State Resource Industry Ass'n* v. *E.P.A.,* 805 F.3d 300, 305 (D.C. Cir. 2015). By contrast, here EPA is merely proposing to rely on a past fact to support the future application of regulations. And because EPA is proposing to establish future compliance dates, no facility would be subject to penalties solely because one of its legacy CCR surface impoundments was out of compliance with the regulatory requirements prior to the effective date of a rule finalizing this proposal.

EPA also disagrees that the proposed requirements fail to account for the current characteristics of some of these units. The fact that some utilities have begun to close, or even completed closure does not necessarily resolve the risks these units can pose to groundwater. The record shows that significant numbers of CCR surface impoundments were constructed such that the base of the unit intersects with groundwater, and that many ''closed'' impoundments, even those closed in accordance with state permits, continue to impound water below the water table (*i.e.,* contain liquid). The risks associated with such closures can be substantial (see Unit IV.B.1.b of this preamble for more information). Also, as discussed below in further detail, EPA is proposing that units that can demonstrate that they have met the performance standards for closure by removal in § 257.102(c) would be subject to no further requirements.

Finally, EPA recognizes that in some instances it may take some work to determine whether a surface impoundment previously contained both CCR and liquids on or after October 19, 2015. However, owners and operators of inactive power plants will be able to rely on operating records from when the power plant was operational, such as aerial photography, construction or inspection reports, groundwater monitoring data and employee testimonials to determine whether the impoundment contained both CCR and liquids on October 19, 2015.

Nevertheless, EPA also continues to consider, as an alternative, defining a legacy CCR surface impoundment as a CCR surface impoundment that no longer receives CCR but contains both CCR and liquids on or after the effective date of the final rule. This option would be the easiest to implement. Based on the Agency's interpretation of what it means ''to contain liquid'' this option would at most only exclude the 29 units [12] that may have completed clean closure in accordance with the performance standards in § 257.102(c) or have taken steps to remove all free

[12] This information can be found in the document titled ''Potential Legacy CCR Surface Impoundments'' in the docket for this action.

liquids, including groundwater, and address infiltration. and would therefore be equivalent to inactive landfills. While the latter category could still present the risk of contaminating groundwater, it is possible those risks could potentially be addressed by the proposed expansion of groundwater monitoring, corrective action, and closure obligations applicable to CCR management units. EPA therefore requests further comment on this option.

b. Legacy CCR Surface Impoundment—Contains Both Liquid and CCR

In response to EPA's ANPRM, some commenters stated that the phrase ''contain[ing] both CCR and liquids'' is impermissibly vague. These commenters believe that while it is clear that impoundments that currently contain visible, standing water would fit this definition, they are concerned that arguments can be made that the definition does not include those units whose bases are in contact with groundwater or that no longer have standing water at the surface. Other commenters stated that more clarity is required regarding the definition of a legacy CCR surface impoundment. Finally, several commenters argued that EPA should not limit its regulation to units that contain water, but should expand the regulation to apply to all CCR units.

i. What does it mean to contain liquid?

The ANPRM suggested that EPA would only revisit the date on which the determination would be made as to whether the impoundment contains both CCR and liquids. EPA did not indicate that the Agency intended to propose to limit or revise the existing requirement that in order to be considered an inactive CCR surface impoundment, the unit must contain both liquid and CCR. 40 CFR 257.53. However, as noted above, commenters have raised concerns that the existing definition is ambiguous and have raised questions about how these existing regulations apply to a number of factual scenarios. Specifically, commenters questioned whether the term ''liquids'' includes free water, porewater, standing water, and groundwater in CCR units.

The part 257 regulations do not include a definition of the term ''liquids.'' 40 CFR 257.53. Neither does RCRA define the term. *See,* 42 U.S.C. 6903. EPA therefore relies upon dictionary definitions to interpret the regulation. For example, Merriam-Webster defines it as ''a fluid (such as water) that has no independent shape but has a definite volume and does not expand indefinitely and that is only slightly compressible.'' Similarly, liquid (in physics) can be defined as one of the three principal states of matter, intermediate between gas and solid. The most obvious physical properties of a liquid are its retention of volume and its conformity to the shape of its container. Liquid can flow, and when a liquid substance is poured into a container or vessel, it takes the shape of that vessel, and will remain that way if conditions are unchanged (*e.g.,* the substance stays in the liquid state). Furthermore, when a liquid is poured from one vessel to another, it retains its volume (if there is no vaporization or change in temperature) but not its shape. These properties serve as useful criteria for distinguishing the liquid state from the solid and gaseous states.

In the realm of CCR surface impoundments, several types of liquids may be present in a CCR unit. For example, among others, this may include water that was sluiced into the impoundment along with the CCR, which may be found as free water ponded above the CCR or porewater intermingled with the CCR, or surface water and groundwater that has migrated into the impoundment due to the construction of the unit. Based on the regulatory terms, the structure, and context in which the terms are employed, as well as the dictionary definitions of ''liquid,'' above, and the fact that nothing in the regulatory definition limits the source of the liquid, EPA considers free water, porewater, standing water, and groundwater to be liquids under the existing regulation. Moreover, the source of the liquid is not important with respect to its basic and fundamental designation as a liquid. It therefore does not matter whether the liquid in the surface impoundment comes from the rain, waters the facility deliberately places in the unit, floodwaters from an adjacent river, or from groundwater—all are liquids, and once present in the unit, they have the same potential to create leachate (another type of liquid), as well as to contribute to hydraulic head and drive flows driven by hydraulic gradients.

Commenters questioned whether the existing definition of an inactive CCR surface impoundment would cover a surface impoundment where, prior to October 19, 2015, the facility has decanted the surface water, but, because the base of the impoundment intersects with the aquifer, water continues to flow through the impoundment and permeate the waste in the base of the unit. Commenters also questioned whether any of the following would also be covered: (a) Impoundments that contained CCR and liquids in the past but are now closed, (b) Impoundments that contained CCR and liquids in the past but will be in the process of closing by the effective date of the legacy rulemaking, and (c) Impoundments that once contained CCR and liquids but have been fully dewatered and are now maintained so as to not contain liquid.

The critical issue in these questions is whether on or after the relevant date in the regulation these units ''contain'' liquid. ''Contains'' means ''to have *or* hold (someone or something) within'' (*e.g.,* Oxford English Dictionary, Merriam-Webster). Accordingly, an impoundment ''contains'' liquid if there is liquid in the impoundment, even if the impoundment does not prevent the liquid from migrating out of the impoundment. In other words, it ''contains'' water if it *has* water within, even if it does not completely restrain the water within the unit.

A surface impoundment that, on or after October 19, 2015, has only decanted the surface water would normally still contain liquid if waste is saturated with water. To the extent the unit still contains liquids, it would be covered by the existing definition of an inactive impoundment. Under this proposed rule, such units would also be considered legacy CCR surface impoundments when located at inactive facilities. This would apply whether the unit is considered ''closed'' under state law, is in the process of closing, or whether at some subsequent point, the unit is fully dewatered and no longer contains liquid.

To determine whether an impoundment has only been partially dewatered, EPA relies on the dewatering requirement found in the closure performance standard at § 257.102(d)(2)(i) (''Free liquids must be eliminated by removing liquid wastes or solidifying the remaining wastes and waste residues''). Both the definition of an inactive CCR surface impoundment and the closure performance standard are designed to address the same issues (the presence or removal of liquid wastes) and are designed for the same purpose (to ensure the risks from the co-management of CCR and liquid are adequately addressed). Under the closure performance standard, a facility must eliminate both the standing liquid in the surface of the impoundment and the separable porewater in any sediment located in the base of the impoundment. Free liquids are defined at § 257.53 to mean ''liquids that readily separate from the solid portion of a waste under ambient temperature and pressure.'' This definition encompasses both

standing liquids in the impoundment as well as porewater in any sediment or CCR. The regulation does not differentiate between the sources of the liquid in the impoundment (*e.g.,* surface water infiltration, sluice water intentionally added, groundwater intrusion). This is further supported by the fact that the performance standard at § 257.102(d)(2)(i) was modeled on the regulations that apply to interim status hazardous waste surface impoundments, which are codified at § 265.228(a)(2)(i). Available guidance on these interim status regulations clarifies that these regulations require both the removal of standing liquids in the impoundment as well as sediment dewatering. See ''Closure of Hazardous Waste Surface Impoundments,'' publication number SW–873, September 1982. See also, Final Decision on Request For Extension of Closure Date Submitted by Gavin Power, LLC, 87 FR 72989 (November 15, 2022).

Accordingly, units that contain both CCR and liquids from any source, including those specifically identified above, after the relevant date would be considered inactive CCR impoundments, consistent with the existing regulations. Although EPA considers that the term ''liquids'' is sufficiently clear that a definition is not necessary, EPA requests comment on whether it would be useful to include a regulatory definition of liquids.

Under the existing regulations, an impoundment that did not contain liquids prior to the effective date of the 2015 CCR Rule, whether because it was closed in accordance with existing state requirements or for other reasons, is not an inactive impoundment. Similarly, a unit that still contains CCR and liquid after the relevant effective date would still be considered an inactive unit even if it was closed in accordance with the requirements in effect at the time (*e.g.,* has a cover). EPA is not proposing to revise this for inactive impoundments, and for consistency, EPA is proposing that the same would hold true for legacy CCR surface impoundments, whatever date EPA ultimately selects for the definition.

However, EPA also received comments in response to the ANPRM stating that available groundwater monitoring data demonstrates that CCR landfills (whether active or inactive) are just as likely to contaminate groundwater as CCR surface impoundments (legacy or otherwise). Accordingly, the commenters argue that EPA should regulate all CCR units, without regard to whether they contain liquid.

EPA is not proposing to expand the definition of a legacy CCR surface impoundment to include units that contain no liquid. Units that contain liquid present different risks than those that do not, and the applicable requirements should differentiate among them accordingly on that basis. While EPA acknowledges that inactive landfills can still present the risk of contaminating groundwater, it is possible those risks could potentially be addressed by this rule's proposed expansion of groundwater monitoring, corrective action, and closure obligations to CCR management units. EPA acknowledges that its current proposal would not regulate every inactive CCR landfill, *e.g.,* it would not address any inactive landfill located at an inactive utility that did not also have an inactive CCR surface impoundment, but it is unclear how many of such units exist, and whether there are any reasons that the risks from these units may differ from those that EPA is proposing to regulate. EPA therefore requests comment on these issues.

i. What does it mean to ''contain'' CCR?

Under the existing regulation, an inactive CCR surface impoundment must contain CCR to be subject to the rule. 40 CFR 257.53. EPA is not proposing to revise that aspect of the term's definition. Consequently, EPA is proposing that a legacy impoundment that has closed by removal in accordance with the performance standards in § 257.102(c) before the relevant date would not be considered an inactive CCR surface impoundment. EPA is proposing that facilities with such a unit would only be required to post documentation that they have met the existing standard for closure by removal in § 257.102(c) on their CCR website. EPA is also proposing, however, that an impoundment at an inactive facility still undergoing closure by removal on the relevant date would be considered a legacy CCR surface impoundment subject to the final rule requirements. Depending on when the impoundment completes closure, some individual requirements may no longer be applicable to the legacy CCR surface impoundment (*i.e.,* when the compliance date in the final rule falls after the date closure is completed for the impoundment); but EPA has no basis for concluding that a legacy CCR surface impoundment that is still in the process of closing poses no risk.

A commenter asserted that EPA's authority under RCRA only extends to those impoundments where solid waste is still being ''disposed of'' at such inactive sites. According to the commenter, EPA's authority ends once the solid waste is removed from the inactive impoundment. The commenter cites the *USWAG* decision to support this interpretation, noting that the Court states that an impoundment regulated under RCRA includes:

> any facility . . . where solid waste still ''is deposited,'' ''is dumped,'' ''is spilled,'' ''is leaked,'' or ''is placed,'' regardless of when it might have originally been dropped off.'' See 42 U.S.C. 6903(3), (14). . . . A site where garbage ''is disposed of'' is the place where garbage is dumped and left. The status of the site does not depend on whether or not more garbage is later piled on top. A garbage dump is a garbage dump until the deposited garbage is gone.

The commenter concludes that, following the Court's logic, a legacy CCR surface impoundment is regulated under RCRA because CCR is currently deposited and stored at the site, but it remains an impoundment regulated under RCRA only during the time CCR is actually being stored at the site. According to the commenter, once all the CCR is removed from the impoundment and the impoundment site has achieved clean closure status according to state regulators, no CCR is being disposed as a solid waste at the site and consequently the impoundment is no longer subject to federal CCR regulation under Subtitle D of RCRA. By contrast, another commenter relied on the *USWAG* decision to conclude that EPA must regulate all legacy CCR surface impoundments unless the facility demonstrates that the unit has complied with the requirements in § 257.102(c). According to the commenter, the Court explained that ''the statute creates a binary world: A facility is a permissible sanitary landfill, or it is an impermissible open dump. The EPA regulates both. The timing or continuation of disposal is irrelevant.''

EPA agrees that it no longer has jurisdiction over a former unit that has closed by removal in accordance with § 257.102(c). Once those standards have been met, no CCR ''still 'is deposited,' 'is dumped,' 'is spilled,' 'is leaked,' or 'is placed.'" This is consistent with EPA's proposal to require the owner or operator to document that the unit has closed in accordance with § 257.102(c), but to impose no requirements on such units.

Nevertheless, EPA is unable to accept the suggestion that EPA exempt legacy CCR surface impoundments that have met state requirements for clean closure. The commenter did not provide any information about any of the state requirements they reference, or otherwise provide information that would allow EPA to evaluate how the

individual state requirements compare to § 257.102(c). Based on the current record EPA can only support a determination that units that have clean closed since 2015 under a state CCR permit program meet the closure requirements in § 257.102(c) for those facilities operating under a permit issued pursuant to one of the three approved state CCR permit programs (Oklahoma, Georgia, and Texas). Moreover, in RCRA section 4005(d)(1) Congress established specific standards and mandated the process for EPA to determine that state requirements should operate in lieu of the federal. Under those provisions, a state can apply to obtain authorization from EPA to operate its program (either in whole or in part) in lieu of the federal requirement by demonstrating that either of the standards in RCRA section 4005(d)(1)(B) has been met. Relying on that congressionally mandated process, rather than this rulemaking, is the appropriate route to address the commenters' concerns about duplication between federal and state requirements.

EPA acknowledges that since the 2015 CCR Rule and the *USWAG* decision some units have closed or have begun to close in accordance with state permits. The Agency is also aware of units that closed on their own initiative in response to the D.C. Circuit's ruling. In response to the ANPRM, EPA received information that since October 19, 2015, 22 surface impoundments at inactive facilities have closed by removal, and 27 surface impoundments have closed with waste in place, either with oversight from a state agency or on their own initiative in response to the *USWAG* decision. A number of commenters claimed that their units are heavily vegetated or developed and that reopening or other removal/remediation activities may disrupt current use of the land. It may well be that some old units are heavily vegetated. However, no commenter submitted any data or analysis to demonstrate that, over the long term, removal or remediation activities would be more detrimental to health and the environment than either cleaning up the contaminated groundwater or taking measures to prevent the legacy CCR surface impoundment from contaminating groundwater.

Moreover, the fact that some impoundments have become heavily vegetated or redeveloped does not resolve the risks these unlined legacy CCR surface impoundments continue to pose. At a minimum, the record shows that significant numbers of CCR surface impoundments were constructed such that the base of the unit intersects with groundwater, and that many inactive, or even ''closed,'' impoundments continue to impound water below the water table (*i.e.,* contain liquid). The risks associated with such closures can be substantial. See Unit IV.B.1.b of this preamble for more information. Consequently, based on the current record, EPA could not support an exemption for units that still contain both liquid and CCR even if the closure or remediation may disrupt the current use of the land.

c. Inactive Facility

Consistent with *USWAG,* EPA is proposing to regulate all inactive CCR surface impoundments at inactive utilities. To support this decision, EPA is proposing to define an inactive utility (or inactive facility) as one that ceased producing electricity prior to October 19, 2015. This date is the effective date of the 2015 CCR Rule. This is also the same date currently used in the regulation to define ''active facility,'' and that EPA originally used to define the exempted units. Use of this date would mean that the same universe of units that were subject to the original exemption would be regulated. This is consistent with the Court's vacatur, as vacatur is intended to restore the status quo ante, as though the vacated provision never existed.

This definition is important to identify which facilities have legacy CCR surface impoundments and therefore are subject to these proposed regulations. EPA is relying on the existing rulemaking record and provisions in § 257.50(b) to draw conclusions about the production of power such that an inactive facility contains ''units that dispose or otherwise engage in solid waste management of CCR generated from the combustion of coal at electric utilities and independent power producers,'' and from § 257.50(c), which says ''electric utilities or independent power producers, regardless of the fuel currently used at the facility to produce electricity.'' EPA is also relying on the existing definition of ''facility'' which means ''all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, disposing, or otherwise conducting solid waste management of CCR. A facility may consist of several treatment, storage, or disposal operational units (*e.g.,* one or more landfills, surface impoundments, or combinations of them).''

Ownership and the ability to identify those responsible for complying with these regulations is a key consideration for the proposed definition of an inactive facility. EPA analyzed the list of inactive CCR facilities provided in the ANPRM comments and conducted additional research to determine the owner of those facilities. To identify the owners of legacy CCR surface impoundments, EPA conducted a two-tiered research process. First, EPA conducted a general search that included desktop research, with a focus on news articles and trade publications regarding plant closures and ownership transfers, to identify the most recent identified owner of each former plant. Where possible, EPA confirmed the findings with utility websites, which often contain information on retired or converted plants, and often have corporate timelines that identify transfer of properties to other parties. In addition, where possible, when EPA identified an owner, the Agency attempted to confirm that the property or plant was listed on the owner's website. If information could not be confirmed, EPA continued researching until all other entities that could potentially currently own the plant could be ruled out. Second, EPA ran these identified owners through the Dun & Bradstreet Hoover's database to identify the ultimate corporate parent of the identified owner. The 156 legacy CCR surface impoundments on the list are associated with 37 different unique corporate parents. Of the 156, the vast majority, 126, are owned by a set of 23 companies the Agency knows own facilities regulated by the CCR regulations. The remaining 30 units are owned by 14 different companies, with each company generally having just one location/site with legacy CCR surface impoundments (with one exception, that owns two sites). Therefore, it appears that most of the inactive facilities are owned by companies that are already regulated by the CCR regulations. Some of them are owned by a company that is not currently regulated by the CCR regulations, but the company has at least one facility with potential legacy CCR surface impoundments. EPA has not identified any facilities where the owner cannot be determined.

In the ANPRM, EPA solicited comments about innocent owners of inactive facilities, but several commenters said that unlike the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), RCRA does not contain an ''innocent owner'' concept, and there is therefore no statutory basis for uniformly excluding these owners from any RCRA regulations applicable to

legacy CCR surface impoundments. The same commenter said the owner should be the owner at the time of rule promulgation and that owner would be in a position to make decisions and act in response to new regulatory requirements applicable to the legacy CCR surface impoundments. Based on EPA's analysis of inactive facility ownership, EPA has no factual basis to establish an innocent owner provision and therefore is not proposing one.

A commenter suggested that EPA should use the phrase ''permanently ceased generating,'' because plants can exist in various stages of generation, including seasonal mothball status, depending on the market conditions and the needs of the independent system operators. EPA disagrees that this is necessary or appropriate, as any facility that generates power after October 19, 2015, is considered an ''active facility,'' that is covered under the existing regulations. See, 40 CFR 257.53 (defining Active facility). Under § 257.50(c), the regulations apply to ''inactive CCR surface impoundments at active electric utilities or independent power producers, regardless of the fuel currently used at the facility to produce electricity.'' 40 CFR 257.50(c).

The question has been raised whether the phrase ''regardless of the fuel currently used to produce electricity'' in § 257.50(c) indicates that EPA meant to limit the rule to facilities that combust fossil fuels; but the provision does not state or even imply that limitation. The definition of an active facility does not include any limitation related to how the facility generates electricity, including fuel use. Nor does the clause, ''regardless of the fuel currently used to produce electricity'' in § 257.50(c) add a fuel use limitation into that definition, or otherwise create a fuel use limitation in the scope of the rule. The plain language of the clause states the opposite; that coverage applies without regard to the fuel used to produce electricity. Or in other words, without regard to the type of fuel used or indeed whether any fuel is used to produce electricity. Nevertheless, to avoid any further confusion, EPA is proposing to amend the provision to specify that the subpart also applies to inactive CCR surface impoundments at active electric utilities or independent power producers, regardless of how electricity is currently being produced at the facility.

Finally, EPA requested comment as to whether the Agency's regulation of inactive CCR surface impoundments should be limited to only units at former power plants that sold electric power to the grid or whether it should also reach units at former power plants that provided power to a single site or facility. In response, some commenters said that EPA should regulate all inactive impoundments without regard to whether those impoundments are located at power plants that once sold electric power to the grid or supplied it only to a single site or facility. They said it is not the location of the impoundment, but rather the presence of coal ash, that controls. Other commenters said this could also prove to be a thorny factual issue, as, in many cases, the same power plant might have served a single site or facility for some period of time as well as served the grid at other times.

For the same reasons that EPA did not include CCR generated by non-utility boilers in the 2015 CCR Rule, EPA is not proposing to regulate units at former power plants that provided power to a single site or facility. See, 80 FR 21340. EPA lacks critical data about such facilities needed to determine whether and how to regulate such facilities. These facilities are primarily engaged in business activities, such as agriculture, mining, manufacturing, transportation, and education. These industries, and the manufacturing industries in particular, generate other types of wastes that are often mixed or co-managed with the CCR at least at some facilities. As a result, the chemical composition of the co-managed waste is likely to be fundamentally different from the chemical composition of CCR generated by electric utilities or independent power producers. EPA requests comment on the likely chemical composition of other types of wastes generated by these industries that were co-managed with any CCR generated at such facilities. Insufficient information is also available on such facilities to determine whether a regulatory flexibility analysis will be required under the Regulatory Flexibility Act, and to conduct one if it is necessary. EPA therefore requests comment on whether the Agency should continue to pursue this issue by seeking to obtain the information necessary to determine whether regulation of such facilities is warranted.

d. Conclusions Related to Scope of Coverage

After considering all of this information, EPA is proposing to define a legacy CCR surface impoundment as: A surface impoundment that is located at a power plant that ceased generating power prior to October 19, 2015, and the surface impoundment contained both CCR and liquids on or after October 19, 2015. EPA considers this definition to be the most protective of human health and the environment for the reasons provided herein.

Alternatively, EPA solicits comments on defining a ''legacy CCR surface impoundment'' as: A CCR surface impoundment at a power plant that ceased generating power prior to October 19, 2015, and the surface impoundment contains both CCR and liquids on or after the effective date of the legacy CCR surface impoundment final rule.

2. Applicable Requirements for Legacy CCR Surface Impoundments and Compliance Deadlines

This Unit of the preamble first provides a general overview of how EPA determined the applicable requirements and compliance deadlines for legacy CCR surface impoundments. Then, EPA will walk through each of the existing requirements for CCR surface impoundments and explain (1) Why EPA is proposing to apply them (or not) to legacy CCR surface impoundments, and (2) The rationale for the compliance deadline EPA is proposing for each requirement.

a. General Overview

i. Applicable Requirements

Based on the record compiled for the 2015 CCR Rule, EPA concluded that ''there is little difference between the potential risks of an active and inactive surface impoundment; both can leak into groundwater, and both are subject to structural failures that release the wastes into the environment, including catastrophic failures leading to massive releases that threaten both human health and the environment.'' (80 FR 21343). As discussed in Unit III.B of this preamble, the D.C. Circuit concurred, and on that basis, vacated the exemption for legacy CCR surface impoundments. *See, USWAG* at 901 F.3d at 434. EPA received no information in response to the ANPRM that would support a conclusion that legacy CCR surface impoundments present fewer risks than other inactive CCR impoundments. Based on this record and on the specificity of the D.C. Circuit's findings in *USWAG,* EPA considers that it has limited discretion to establish requirements for legacy CCR surface impoundments that are significantly different than those currently applicable to inactive CCR impoundments. Accordingly, EPA is proposing that, in most cases the existing requirements in 40 CFR part 257, subpart D applicable to inactive CCR surface impoundments would apply to legacy CCR surface

impoundments. EPA is proposing to make one revision to the existing groundwater monitoring requirements. In addition, EPA is proposing to establish two new requirements specific to legacy CCR surface impoundments: a reporting requirement and a new security requirement to restrict public access to these sites. Finally, EPA is proposing that legacy CCR surface impoundments would not be subject to either the location restrictions at §§ 257.60 through 257.64, or the liner design criteria at § 257.71. EPA is proposing to exclude these requirements because EPA believes they will not be necessary if EPA takes final action on the proposed requirement that all legacy CCR surface impoundments initiate closure no later than 12 months after the effective date of the final rule.

Some commenters on the ANPRM said that all provisions currently required for CCR surface impoundments at active power plants (or those that were operating as of the effective date of the rule), are just as necessary—if not more so—at legacy CCR surface impoundments to ensure satisfaction of the RCRA section 4004(a) protectiveness standard. Other commenters said the only applicable requirements should be groundwater monitoring, closure, post-closure care, and related recordkeeping requirements. Several of these commenters also said that the 2015 CCR rulemaking record is not directly applicable to the universe of units that are located at inactive power plants and still contain CCR and liquids. They said the 2014 CCR Risk Assessment used to develop the 2015 CCR Rule was limited to current disposal practices and did not consider units that had stopped receiving waste or historically disposed of CCR by facilities that no longer operate. According to these commenters, the Agency must first accurately identify the universe of legacy CCR surface impoundments, the specific characteristics of risk for those impoundments, and then analyze whether other authorities are sufficient to address any risk from these legacy CCR surface impoundments.

Finally, some commenters requested that EPA include a mechanism for legacy CCR surface impoundment owner(s) and/or operator(s) to demonstrate that, in such cases, additional CCR requirements would be unnecessary. The commenters stated that this would be similar to the case-by-case determinations established under the Holistic Approach to Closure Parts A and B final rules (85 FR 53516 and 85 FR 72506) that provided a mechanism for the Agency to issue variances for plants that could successfully make the required demonstration.

ii. Compliance Deadlines

EPA is proposing to establish new compliance dates for legacy CCR surface impoundments. The compliance deadlines in the 2015 CCR Rule were generally based on the amount of time determined to be necessary to implement the requirements. To determine what was feasible, EPA accounted for the fact that some of the new requirements involved numerous activities, many of which must occur sequentially (*e.g.,* the groundwater monitoring requirements in §§ 257.90 through 257.95), as well as concerns about shortages of contractor and lab resources resulting from the fact that those numerous facilities would need to come into compliance at the same time. EPA also accounted for other Agency rulemakings that could have affected the owners or operators of CCR units, namely the 2015 Effluent Limitation Guidelines (ELG) and Standards for the Steam Electric Power Generating Point Source Category and the Carbon Pollution Commission Guidelines for Existing Stationary Sources: Electric Utility Generating Units. In establishing the proposed deadlines for legacy CCR surface impoundments, EPA adopted the same approach, and is proposing deadlines based on the amount of time determined to be necessary to implement the requirements. But some of the factors considered in the 2015 rulemaking are not relevant for legacy CCR surface impoundments; for example, there is no longer a need to coordinate with the ELG compliance deadlines. In addition, most facilities are already familiar with these requirements as they have already implemented them for other units at their active sites, so the timeframes need not account for the time that would be needed for a facility to understand the regulations and develop strategies for compliance. Finally, there will be fewer facilities and units that will need to come into compliance, and EPA no longer has concerns about shortages of contractors and lab resources. Consequently, EPA is generally proposing expedited timeframes for legacy CCR surface impoundments to comply with the regulations, based on the shortest average amount of time needed to complete the activities involved in meeting the requirements. Overall, comments submitted in response to the ANPRM acknowledged these differences and most supported the establishment of shorter deadlines than were established in the 2015 CCR Rule.

Note that all deadlines herein are framed by reference to the effective date of the rule and have been proposed based on an effective date that is six months from publication of the final rule. The Agency has included a document in the docket [13] for this rule that summarizes the proposed compliance deadlines. EPA requests comment on the compliance deadlines and the feasibility to meet the proposed compliance timeframes for legacy CCR surface impoundments.

TABLE 1—PROPOSED COMPLIANCE TIMEFRAMES FOR LEGACY CCR SURFACE IMPOUNDMENTS IN MONTHS AFTER EFFECTIVE DATE OF THE FINAL RULE

40 CFR part 257, subpart D requirement	Description of requirement to be completed	Proposed deadline (months after effective date of the final rule)	Notes
Applicability Documentation (§ 257.100).	Applicability Documentation for the legacy CCR surface impoundment.	0	Prerequisite requirements: Establish CCR website. Subsequent requirements: History of construction; Initial structural stability assessment; Initial safety factor assessment.
Design Criteria (§ 257.73)	Install permanent marker	0.	
Site Security (§ 257.100(f)(3)(iii))	Implement site security measures.	0.	

[13] This information can be found in the document titled ''Proposed Compliance Deadlines for Legacy CCR Surface Impoundments and CCR Management Units'' in the docket for this action.

TABLE 1—PROPOSED COMPLIANCE TIMEFRAMES FOR LEGACY CCR SURFACE IMPOUNDMENTS IN MONTHS AFTER EFFECTIVE DATE OF THE FINAL RULE—Continued

40 CFR part 257, subpart D requirement	Description of requirement to be completed	Proposed deadline (months after effective date of the final rule)	Notes
Operating Criteria (§ 257.80)	Prepare fugitive dust control plan.	0	Subsequent requirements: Initial annual fugitive dust report.
Operating Criteria (§ 257,80, 257.82, 257.83).	Initiate weekly inspections of the CCR unit.	0	Subsequent requirements: Initial annual inspection of the CCR unit.
Operating Criteria (§ 257,80, 257.82, 257.83).	Initiate monthly monitoring of CCR unit instrumentation.	0	Subsequent requirements: Initial annual inspection of the CCR unit.
Internet Posting (§ 257.107)	Establish CCR website	0	Subsequent requirements: Applicability report; all recordkeeping.
Design Criteria (§ 257.73)	Compile a history of construction	3	Prerequisite requirements: Applicability report. Subsequent requirements: Hazard potential classification; Emergency Action Plan; Initial hazard classification assessment; Initial structural stability assessment; Initial safety factor assessment; Initial annual inspection; Groundwater monitoring system.
Design Criteria (§ 257.73)	Complete initial hazard potential classification assessment.	3	Prerequisite requirements: Applicability report; History of construction. Subsequent requirements: Emergency Action Plan.
Design Criteria (§ 257.73)	Complete initial structural stability assessment.	3	Prerequisite requirements: Applicability report; History of construction. Subsequent requirements: Emergency Action Plan.
Design Criteria (§ 257.73)	Complete initial safety factor assessment.	3	Prerequisite requirements: Applicability report; History of construction. Subsequent requirements: Emergency Action Plan.
Operating Criteria (§ 257,80, 257.82, 257.83).	Complete the initial annual inspection of the CCR unit.	3	Prerequisite requirements: History of construction; Weekly inspections of the CCR unit; Monthly monitoring of CCR unit instrumentation.
GWMCA (§ 257.91)	Install the groundwater monitoring system.	6	Prerequisite requirements: Applicability report; History of construction. Subsequent requirements: Groundwater sampling and analysis program; Initiate detection and assessment monitoring; Annual GWMCA report; Written closure plan; Initiate closure.
GWMCA (§ 257.93)	Develop the groundwater sampling and analysis program.	6	Prerequisite requirements: Install the groundwater monitoring system. Subsequent requirements: Initiate detection monitoring and assessment monitoring.
GWMCA (§ 257.90(e))	Annual GWMCA report	January 31 of the year following GWM system install.	Prerequisite requirements: Groundwater monitoring system; Groundwater sampling and analysis plan.
Design Criteria (§ 257.73)	Prepare Emergency Action Plan	9	Prerequisite requirements: History of construction; Hazard potential classification; Initial structural stability assessment; Initial safety factor assessment.
Operating Criteria (§ 257.82)	Prepare initial inflow design flood control system plan.	9	Prerequisite requirements: History of construction; Hazard potential classification.
Operating Criteria (§ 257.80)	Prepare initial annual fugitive dust report.	12	Prerequisite requirements: Fugitive dust plan.
Closure (§§ 257.100–257.101)	Prepare written closure plan	12	Subsequent requirements: Initiate closure.
Post-Closure Care (§ 257.104)	Prepare written post-closure care plan.	12	Prerequisite requirements: Written closure plan.
Closure and Post-Closure Care (§ 257.101).	Initiate closure	12	Prerequisite requirements: Written closure plan.
GWMCA (§§ 257.90–257.95)	Initiate the detection monitoring and assessment monitoring. Begin evaluating the groundwater monitoring data for SSI over background levels and SSL over GWPS.	24	Prerequisite requirements: Groundwater monitoring system; Groundwater sampling and analysis plan.

b. New Requirements Specific to Legacy CCR Surface Impoundments

i. Legacy CCR Surface Impoundment Applicability Documentation

EPA is proposing to require the owner and operator of a legacy CCR surface impoundment to prepare an applicability documentation for any legacy CCR surface impoundment at that facility no later than the effective date of the final rule. This requirement would apply to all legacy CCR surface impoundments, including incised impoundments and impoundments that do not meet the height and storage volume cutoffs specified in § 257.73(b). See, proposed regulatory text at § 257.100(f)(1)(i). EPA is proposing that this applicability documentation would include information to identify the unit, delineate the unit boundaries, include a figure of the facility and where the unit is located at the facility, the size of the unit, its proximity to surface water bodies, and the current site conditions. For impoundments that are incised or for those not meeting the height and storage volume thresholds specified in § 257.73(b), the applicability report must document these conditions so that stakeholders can understand what structural integrity requirements will apply to the legacy CCR surface impoundment. EPA is also proposing that the applicability report include the facility address, latitude and longitude, and contact information of the owner and/or operator of the legacy CCR surface impoundment with their phone number and email address. EPA is also proposing that the owner or operator of the legacy CCR surface impoundment notify the Agency of the establishment of the facility's CCR website and the applicability of the rule, using the procedures currently in § 257.107(a) via the ''contact us'' form on EPA's CCR website.

ii. Site Security for Legacy CCR Surface Impoundments

Active facilities generally have guards and fencing to control access to the facility, but inactive CCR facilities may not have such security controls in place at the facility. To minimize that risk, EPA is proposing that owners and operators establish security controls to restrict access to legacy CCR surface impoundments. The proposed security requirements are written in terms of a performance standard, as opposed to a prescriptive set of technical standards, such as specific signage, barriers and fencing, or surveillance techniques. EPA chose this approach because it would allow the owner or operator to identify the most appropriate means for providing site security for the impoundment based on site-specific circumstances.

Some commenters on the ANPRM agreed that such requirements are necessary because legacy CCR impoundments are located at inactive power plants, unlike impoundments at operating power plants, they almost certainly lack the oversight and protection afforded by significant numbers of on-site personnel. Consequently, the integrity of impoundments and berms and the safety of nearby residents depend on robust security measures to ensure that people are not—whether intentionally or unknowingly—entering the site and taking actions (such as ATV driving, dirt biking, or similar activities) that endanger the integrity of the impoundment or expose trespassers to health risks.

The proposed site security performance standard would require the owner or operator to prevent the unknowing entry of people onto the legacy CCR surface impoundment and to minimize the potential for the unauthorized entry of people or livestock onto the impoundment. See proposed regulatory text in § 257.100(f)(3)(iii). The Agency generally modeled the proposed requirements on existing regulations that apply to interim status hazardous waste surface impoundments, which are codified at § 265.14(a). EPA recognizes that some facilities may have facility-wide access controls in place, and in this case, the facility-wide controls would satisfy the proposed requirement to limit public access to the legacy CCR surface impoundment. The Agency is proposing to require the facility to restrict access to the area containing the legacy CCR surface impoundment no later than the effective date of the final rule. See, proposed regulatory text at § 257.100(f)(3)(iii).

iii. Certification of Closure by Removal for Legacy CCR Surface Impoundments

As discussed in Unit IV.A.1.b.ii of this preamble, where a legacy CCR surface impoundment has completed closure of the CCR unit by removal of waste in accordance with the performance standards in § 257.102(c) prior to the effective date of the final rule, EPA is proposing that the owner and operator of an inactive facility post documentation that they have met the existing standard for closure by removal in § 257.102(c) on their CCR website. If such a demonstration cannot be made, the CCR surface impoundment would be regulated as a legacy CCR surface impoundment. EPA is proposing to require that the closure certification be certified by a qualified professional engineer (P.E.). EPA is proposing to require certification by a qualified professional engineer even though the Agency now has authority to enforce the part 257 regulations. This is because the certification is not intended as a substitute for EPA's oversight, but as a supplement to ensure that the regulated community properly understands and implements the regulations. As EPA explained in 2015, the purpose of requiring certification was to ensure that qualified individuals verify that the technical provisions of the rule have been properly applied and met, not to delegate regulatory oversight to the engineer, or to serve as a shield against judicial enforcement. See 80 FR 21335. Consistent with the original 2015 requirements, the performance standards that EPA is proposing to establish are independent requirements and would remain enforceable regardless of whether a P.E. certification has been obtained.

EPA is proposing to require that the certified demonstration be completed and posted on the facility website no later than the effective date of the final rule. See proposed regulatory text at § 257.100(f)(1)(ii). Because the closure of the unit will have been already completed, the information on which to base the demonstration should be readily available. Consequently, EPA believes that requiring completion of this requirement, if applicable, by the effective date of the final rule provides sufficient time for such a task.

c. Location Restrictions and Liner Design Criteria

The CCR regulations require existing CCR surface impoundments that cannot demonstrate compliance with the location restrictions for placement of CCR above the uppermost aquifer, in wetlands, within fault areas, in seismic impact zones, or in unstable areas (specified in §§ 257.60 through 257.64) to cease receipt of waste and retrofit or close. The purpose of these requirements is largely to ensure that units located in particularly problematic areas cease operation. By definition, legacy CCR surface impoundments are not operating, and because it appears that all legacy CCR surface impoundments are unlined and will therefore be required to close, EPA believes that requiring compliance with the location restrictions would be largely redundant. Commenters on the ANPRM largely supported not requiring location restrictions or liner demonstrations on the grounds that location restrictions and operating and

design criteria are not relevant to this class of units, as these requirements primarily sought to ensure active units operated safely. Other commenters raised concern that requiring compliance with one or more location restrictions would provide information that would be ''critical'' to designing unit closure and any necessary corrective action. EPA agrees that this information would be useful but believes the same information will be captured by compliance with the history of construction requirement, the closure plan, or in the development of the groundwater monitoring system.

EPA is also proposing that the requirement to document whether the impoundment was constructed with a composite liner or alternative composite liner under § 257.71(a)(1) is not warranted for legacy CCR surface impoundments. The original purpose of this provision was to determine whether the unit was unlined, and consequently subject to closure. However, the available information indicates that legacy CCR surface impoundments were largely constructed well before composite liners systems were typically installed. For this reason, EPA expects legacy CCR surface impoundment to be unlined and, therefore, EPA is proposing to require all legacy CCR surface impoundments to close. As a consequence, EPA believes that requiring facilities to compile the information required by § 257.71(a)(1) would not provide useful information or otherwise be necessary.

d. Design Criteria for Structural Integrity for Legacy CCR Surface Impoundments

To help prevent damages associated with structural failures of CCR surface impoundments, existing surface impoundments must meet specified structural integrity criteria in § 257.73 as part of the design criteria. EPA is proposing that all existing structural integrity requirements be applicable to legacy CCR surface impoundments without revision.

i. Installation of a Permanent Marker for Legacy CCR Surface Impoundments

Consistent with the existing requirements for CCR surface impoundments, EPA is proposing that owners or operators of legacy CCR surface impoundments, except for ''incised CCR surface impoundments'' as defined in § 257.53, comply with § 257.73(a)(1), which requires the placement of a permanent identification marker, at least six feet high on or immediately adjacent to the CCR unit with the name associated with the CCR unit and the name of the owner or operator. See, proposed regulatory text at § 257.100(f)(2)(i).

EPA is proposing that placement of the permanent marker must be completed by the owner or operator of the legacy CCR surface impoundment by the effective date of the final rule. By comparison, installation of a permanent marker was required two months after the effective date of the 2015 CCR Rule. The proposed deadline is expedited for the reasons described in Unit IV.A.2.a.ii of this preamble and accounts for sufficient time for survey work, and review of records in facility deeds or other records.

ii. History of Construction for the Legacy CCR Surface Impoundments

Under the existing regulations, CCR surface impoundments that either have: (1) A height of five feet or more and a storage volume of 20 acre-feet or more; or (2) Have a height of 20 feet or more, must document the design and construction of the CCR surface impoundment. 40 CFR 257.73(b) and (c). *See also* 80 FR 21379–21380, April 17, 2015. EPA is proposing that owners or operators of legacy CCR surface impoundments that meet this size threshold would be required to comply with the existing requirements to compile the construction history of the legacy CCR surface impoundment. See proposed regulatory text in § 257.100(f)(2)(ii).

Some commenters on the ANPRM agreed that the history of construction is critical to an evaluation of the long-term stability of legacy CCR surface impoundments, which must be considered to determine if the closure performance standards for closure in place can be met at the impoundment and whether a given corrective action meets the requirement to select a safe, protective remedy. The history of construction is also critical in the event of any failure of the impoundment: emergency response personnel must have access to that information to determine how to halt further failure, and further release of CCR, as quickly as possible.

For legacy CCR surface impoundments, EPA acknowledges that much of the construction history of the surface impoundment may be unknown or lost to time. The Agency conducted assessments of impoundments across the country starting in 2009 (herein referred to as 2009–2014 Assessment Program). For information about these assessments and how the results impacted the 2015 CCR Rule, *see* 80 FR 21313–21318 (April 17, 2015). The results from the 2009–2014 Assessment Program confirmed that many owners or operators of CCR units did not possess documentation on the construction history or operation of the CCR unit. 80 FR 21380. Information regarding construction materials, expansions or contractions of units, operational history, and history of events was frequently difficult for the owners or operators to obtain. Therefore, consistent with the existing regulations, the owner or operator would only need to provide information on the history of construction to the extent that such information is reasonably and readily available.

To complete the history of construction report, typically, the owner and operator first enlist a contractor to generate the history of construction report. Contracting typically involves the owner and operator issuing a request for proposal, contractors responding to the request, and the owner and operator evaluating the bids and selecting a contractor (estimate 1–2 weeks). Following selection and onboarding of a contractor, a data inventory, compilation, and review of existing documents is completed by the owner and operator and contractor to meet the requirements in § 257.73(c)(1)(i) through (xi) (estimate 4–6 weeks). Examples of documents compiled may include the CCR unit's design drawings and construction documents, such as construction reports, quality assurance, as-built records, and historic boring log reviews (*e.g.,* subsurface investigation used for original CCR unit design, post-construction subsurface investigations, geotechnical studies). Data from external sources may also be needed such as the U.S. Geological Survey (USGS) 7.5-minute or 15-minute topographic quadrangle maps (§ 257.73(c)(1)(ii)) or National Hydrography Datasets (§ 257.73(c)(1)(iv)). The compiled data must then be reviewed, analyzed, and documented in reports (estimate 3–4 weeks). Examples of analyses may include maximum CCR depths, area-capacity curves, spillway capacities, and the maximum pool surface elevation following peak discharge from the inflow design flood. This estimate assumes that no new extensive analyses are needed, and that all necessary information can be derived from existing reports (*e.g.,* hydraulic and hydrologic reports). If new analyses are needed (*e.g.,* maximum CCR depth), they are assumed to be minor with data inputs for performing these analyses existing and readily available such as field surveys (*e.g.,* historic site preparation surveys, post-construction/as-built surveys, periodic surveys,

bathymetric surveys). Based on these assumptions, the time required to generate a history of construction report is 8–12 weeks or 2–3 months. Therefore, EPA is proposing to require the history of construction report to be compiled no later than 3 months after the effective date of the final rule.

Expediting this timeframe compared to the 2015 CCR Rule timeframe is important for the reasons described above in Unit IV.A.2.a.ii of this preamble and because several additional requirements depend on the information that would be obtained by compliance with these requirements. For example, available geologic subsurface information from history of construction is typically necessary to determine the number, spacing and location of monitoring wells for the installation of a groundwater monitoring system that meets the criteria of § 257.91. Another example is that § 257.73(c)(1)(xi) requires reporting any record or knowledge of structural instability of the CCR unit; this information is also needed for the initial and periodic structural stability assessments required under § 257.73(d).

iii. Initial Hazard Potential Classification for Legacy CCR Surface Impoundments

Consistent with the existing regulations, EPA is proposing that owners or operators of legacy CCR surface impoundments, except for incised CCR surface impoundments as defined in § 257.53, must complete the initial periodic hazard potential classification assessment required under § 257.73(a)(2). See, proposed regulatory text at § 257.100(f)(2)(iii).

Hazard potential classification assessments require activities that can be summarized as data/documentation review, a site visit, and report generation. As stated above, acquiring a contractor may take 1–2 weeks. The contractor would then perform a site visit and review available hazard documents such as existing state or federal dam hazard potential classification documents or any previous structural stability or safety factor documentation. The contractor then generates a P.E.-certified report stating the hazard classification determination and basis for the findings. The site visit is estimated to take 1 week. The data/documentation review and report generation are expected to take a total of 4–6 weeks. Based on these estimates, the total time needed to conduct the initial hazard potential classification assessment is 6–9 weeks. Accordingly, EPA is proposing the initial hazard potential classification assessment be due no later than 3 months after the effective date of the final rule. The proposed deadline provides sufficient time to complete the activities necessary to satisfy this requirement, while allowing time (3–6 six weeks) for reasonable delays, such as weather delaying a site visit or difficulty obtaining pertinent documentation. This timeframe is expedited from the deadline in the 2015 CCR Rule by 9 months for the reasons described above in Unit IV.A.2.a.ii of this preamble.

iv. Initial Structural Stability Assessment and Initial Safety Factor Assessment for Legacy CCR Surface Impoundments

Under the existing regulations, CCR surface impoundments that meet the size thresholds in § 257.73(b) and (c), must conduct two different types of technical assessments: (1) A structural stability assessment; and (2) A safety factor assessment. *See* 40 CFR 257.73(b), (d), (e), and (f). *See also* 80 FR 21380–21386, April 17, 2015. EPA is proposing that owners or operators of legacy CCR surface impoundments that meet the same thresholds also comply with the requirements to conduct an initial structural stability assessment and an initial safety factor assessment. See, proposed regulatory text at § 257.100(f)(2)(iv).

Some commenters on the ANPRM said structural stability assessments and safety factor assessments must apply to legacy CCR surface impoundments since the risks from such units are likely greater at legacy CCR surface impoundments, given the age of such units; the higher percentage of legacy ponds (as compared to operating ash ponds) that were neither designed by, nor built under the supervision of, a P.E.; and the higher percentage of legacy CCR surface impoundments determined to be in ''poor'' or ''fair'' condition.

The Agency conducted assessments of impoundments across the country starting in 2009 in the 2009–2014 Assessment Program. For information about these assessments and how the results impacted the 2015 CCR Rule, *see* 80 FR 21313–21318 (April 17, 2015). EPA analyzed the results of the 2009–2014 Assessment Program and found that 97 impoundments [14] assessed during the Program are located at inactive CCR facilities. Of those impoundments, EPA found that six impoundments are classified as high hazard potential, and 41 impoundments are classified as significant hazard potential meaning that failure or mis-operation of the dam will probably cause loss of human life or can cause economic or environmental losses. This further supports EPA's conclusion that these requirements are needed for legacy CCR surface impoundments.

Activities required to conduct the initial structural stability assessment include reviewing historic documents, conducting a site investigation (if needed), and generating a P.E.-certified report. Typically, owners or operators hire a contractor who is a certified P.E., which, as detailed above, may take one to two weeks. The contractor would then compile and review historic documents to determine if the design, construction, operation, and maintenance of the CCR unit are consistent with good engineering practices, which may take 2–3 weeks. These documents likely overlap with those already compiled for the history of construction and may include the design drawings, construction reports, quality assurance documentation, as-built records, subsurface investigations, geotechnical studies, and site inspections. Stability of the CCR unit's embankment and foundation may be demonstrated through slope stability analyses. Because slope stability analyses are typically required to satisfy safety factor assessments, no additional time is considered necessary to satisfy the requirements under § 257.73(d). Although site inspections would likely already have occurred by the effective date of the final rule pursuant to § 257.83(a) or § 257.83(b), it may be necessary for the qualified P.E. to perform a site inspection to certify the CCR unit meets the requirements as set forth in § 257.73(d). Therefore, 1 week for the site inspection is factored into the estimated time to complete these assessments. Finally, generating a P.E.-certified report may take 4–6 weeks. The total estimated time to meet this requirement is 8–12 weeks.

Activities required to complete the initial safety factor assessment may include hiring a contractor that is a qualified P.E., which may take 1–2 weeks and conducting slope stability analyses of critical cross sections, as defined in § 257.73(e)(1). For the initial assessment, it is anticipated that no new field work will be required to gather this data and that the input parameters required for the analysis (*e.g.,* soil geotechnical properties, seasonal high-water table) are available in historic documents such as the subsurface investigation used for the original CCR unit design, post-construction subsurface investigations, and/or geotechnical studies. Compilation and

[14] This information can be found in the document titled ''Potential Legacy CCR Surface Impoundment Universe'' in the docket for this action.

review of this data is estimated to take 2–3 weeks, followed by 5–7 weeks for data analysis and reporting. The total estimated time needed to meet requirements for completion of the safety factor assessment is 8–12 weeks.

The activities for the initial structural stability and initial safety factor assessments can be conducted concurrently and based on the estimates above, should take a total of 8–12 weeks (2–3 months). Therefore, as stated above, EPA is proposing both the initial structural stability assessment and the initial safety factors assessments be completed no later than 3 months after the effective date of the final rule. These timeframes are expedited by 15 months from the 2015 CCR Rule deadline. EPA believes the expedited timeframe is important to address the risks posed by legacy CCR surface impoundments, as described in this Unit and in Unit IV.A.2.a.ii of this preamble.

v. Preparation of an Emergency Action Plan for Legacy CCR Surface Impoundments

Section 257.73(a)(3) requires any CCR surface impoundment that is determined by the owner or operator, with the certification by a P.E., to be either a high hazard potential or a significant hazard potential CCR surface impoundment to prepare and maintain a written Emergency Action Plan (EAP). EPA is proposing that the owners or operators of legacy CCR surface impoundments that have been identified as having either a high hazard potential or a significant hazard potential would be required to comply with the same requirements to prepare and maintain an EAP that are currently required under § 257.73. See proposed regulatory text at § 257.100(f)(2)(v).

An EAP is a document that identifies potential emergency conditions at a CCR surface impoundment and specifies actions to be followed to minimize loss of life and property damage. To prepare an EAP, the owner or operator must accurately and comprehensively identify potential failure modes and at-risk developments. *See also* 80 FR 21377–21379, April 17, 2015. Satisfying EAP requirements is primarily a desktop exercise that requires information on site conditions, some analyses, and assessments that are proposed to be completed earlier. Typically, the owner and operator enlist a contractor to generate the EAP, which, as described above may take 1–2 weeks. Once onboard, it is assumed that the contractor would review site-specific documents, assessments, and analyses that were completed earlier and that may have an impact on development of an EAP. These documents and assessments may include the history of construction, initial structural stability assessment, initial safety factor assessment, initial hazard potential classification, hydraulic and hydrologic analyses for inundation maps and potential impact areas, and the first annual inspection. Assuming all analyses discussed in the preceding sections are completed by the proposed deadlines of 3 months after the effective date of the final rule, the review of existing documents and assessments is estimated to take 4–6 weeks. Additional analyses, such as dam breach analyses or inundation evaluations, may be needed to define events or circumstances that may represent a safety emergency. If needed, these analyses may take 3–6 weeks). The contractor would then prepare the EAP including describing procedures to follow in an emergency, gathering emergency responder contact information and defining responsible persons, assigning responsibilities, and detailing notification procedures. This may take 6–8 weeks because the required coordination with community or government entities. Based on these assumptions, the time required to complete an EAP is 3–6 months. Therefore, EPA is proposing a deadline of 9 months after the effective date for this requirement. This timeline is sufficient to review previously prepared documents, complete additional analyses and prepare the EAP while accounting for the 3 months allotted for the prerequisite assessments.

e. Operating Criteria for Legacy CCR Surface Impoundments

The operating criteria in §§ 257.80, 257.82, and 257.84 include air criteria for all CCR units, hydrologic and hydraulic capacity requirements for CCR surface impoundments, and periodic inspection requirements for CCR surface impoundments. These criteria address the potential risks from the day-to-day operations of CCR units and are established to prevent health and environmental impacts from CCR units. CCR surface impoundments are subject to hydrologic and hydraulic capacity requirements to ensure the unit can safely handle flood flows, which will help prevent uncontrolled overtopping of the unit or erosion of the materials used to construct the surface impoundment. The CCR regulations also require periodic inspections of CCR units to identify any appearance of structural weakness or other conditions that are not consistent with recognized and generally accepted good engineering standards. EPA is proposing that legacy CCR surface impoundments comply with these existing requirements without revision.

i. Fugitive Dust Control Plan for Legacy CCR Surface Impoundments

EPA is proposing that owners or operators of legacy CCR surface impoundments must complete a fugitive dust control plan. See, proposed regulatory text at § 257.100(f)(3)(i). The existing regulations require the owner or operator of a CCR unit to adopt measures that will effectively minimize CCR from becoming airborne at the facility, including CCR fugitive dust originating from CCR units, roads, and other CCR management and material handling activities. 40 CFR 257.80(b). To meet this requirement, the owner or operator of the CCR unit must prepare and operate in accordance with a fugitive dust control plan. *Id. See also* 80 FR 21386–21388, April 17, 2015. EPA considers that fugitive dust controls are warranted because closure activities can produce significant quantities of dust. For the same reason, most commenters on the ANPRM agreed that legacy CCR surface impoundments should be subject to these requirements.

The primary activities associated with this requirement are hiring a contractor who is a qualified P.E., having the contractor develop a plan based on daily operations at the unit and site conditions, and certification of the plan by a P.E. Little to no field-based activities are required to complete the fugitive dust control plan, so EPA is proposing that the owner or operator comply with the existing requirements by the effective date of the final rule. This timeline is commensurate with the timeline proposed in the 2015 CCR Rule for fugitive dust control plans.

ii. Initial Fugitive Dust Control Report for Legacy CCR Surface Impoundments

EPA is proposing to require the initial annual fugitive dust report to be due 12 months after the effective date of the final rule. See, proposed regulatory text at § 257.100(f)(3)(vi). Consistent with the existing regulations, the report must document all actions taken to control CCR fugitive dust, a record of all citizen complaints, and a summary of any corrective measures taken in the previous year. As this report is primarily a summary of owner or operator activities related to fugitive dust control and does not require a P.E. certification, the report may be completed by the owner or operator without the need for a contractor. Therefore, the deadline of 12 months after effective date of rule is sufficient for this requirement. This deadline is

expedited by 2 months from the 2015 CCR Rule deadline for the reasons described above in Unit IV.A.2.a.ii of this preamble. Because EPA is proposing that the fugitive dust control plan would be due on the effective date of the final rule, this would mean that the first annual report would be due one year after the plan is developed. The owner or operator has completed the annual CCR fugitive dust control report when the plan has been placed in the facility's operating record.

iii. Weekly Inspections of the Legacy CCR Surface Impoundment and Monthly Monitoring of the CCR Unit's Instrumentation

EPA is proposing that owners and operators of legacy CCR surface impoundments must initiate the inspection requirements set forth in § 257.83(a) no later than the effective date of the final rule. See, proposed regulatory text at § 257.100(f)(3)(ii). Under § 257.83(a), all CCR surface impoundments must be examined by a qualified person at least once every seven days for any appearance of actual or potential structural weakness or other conditions that are disrupting or that have the potential to disrupt the operation or safety of the CCR unit. The results of the inspection by a qualified person must be recorded in the facility's operating record. Weekly inspections are intended to detect, as early as practicable, signs of distress in a CCR surface impoundment that may result in larger more severe conditions. Inspections are also designed to identify potential issues with hydraulic structures that may affect the structural safety of the unit and impact its hydraulic and hydrologic capacity. Section 257.83(a) also requires the monitoring of all instrumentation supporting the operation of the CCR unit to be conducted by a qualified person no less than once per month. *See also* 80 FR 21394–21395 (April 17, 2015).

EPA recognizes that field work may be necessary prior to initiating weekly inspections, such as hiring a contractor to perform vegetative clearing and establishing inspection routes. If necessary, these activities may take 2–4 weeks. EPA also acknowledges that instrumentation may already be installed as part of dam safety or other programs under state regulations. However, if instrumentation is not currently installed, 4–6 weeks may be needed for the installation of piezometers or other equipment. Based on these estimates, EPA's proposed deadline for the initiation of weekly inspections and monthly monitoring of no later than the effective date of the final rule is sufficient for the completion of these activities. The proposed timeframe is the same as the 2015 CCR Rule deadline.

iv. Initial Annual Inspection for Legacy CCR Surface Impoundments

EPA is proposing that owners and operators of legacy CCR surface impoundments must conduct the initial annual inspection no later than 3 months after the effective date of the final rule. See, proposed regulatory text at § 257.100(f)(3)(iv). Existing CCR surface impoundments exceeding the height and storage volume thresholds in § 257.73(b) and (c), are required to conduct annual inspections of the CCR unit throughout its operating life (§ 257.83(b)). These inspections are focused primarily on the structural stability of the unit and must ensure that the operation and maintenance of the unit is in accordance with recognized and generally accepted good engineering standards. Each inspection must be conducted and certified by a P.E. *See also* 80 FR 21395, April 17, 2015.

Annual inspections include documentation review, a visual inspection of the CCR unit, and a visual inspection of any hydraulic structures underlying the base of the CCR unit or passing through the CCR unit's dike. Documentation reviewed as part of the annual inspection include operating records, previous structural stability assessments, and the results of previous weekly, monthly, and annual inspections and can overlap with reviews needed to complete the initial structural stability assessment.

EPA is proposing that owners and operators must prepare the initial inspection report for legacy CCR surface impoundments within the same timeframe—no later than 3 months from the effective date of the final rule—as was required for existing CCR surface impoundments in the 2015 CCR Rule. The Agency believes this timeframe to prepare the initial annual inspection is similarly appropriate for legacy CCR surface impoundments as for existing impoundments. As discussed in the preamble to the 2015 CCR Rule, the 3-month timeframe was based on EPA's experience with its CCR Assessment Program to evaluate the structural stability and safety of existing impoundments throughout the nation. Specifically, EPA found that 3 months would be adequate to complete the tasks supporting an annual inspection, including retaining the services of a P.E., reviewing relevant information in the facility's operating record, conducting the field inspection, and completing the inspection report. *See* 80 FR 21395 (April 17, 2015).

v. Initial Inflow Design Flood Control System Plan for Legacy CCR Surface Impoundments

EPA is proposing that owners and operators of legacy CCR surface impoundments must prepare the inflow design flood control system plan 9 months after the effective date of the final rule. See, proposed regulatory text at § 257.100(f)(3)(v). Owners or operators of all CCR surface impoundments are required to design, construct, operate, and maintain hydraulic and hydrologic capacity to adequately manage flow both into and from a CCR surface impoundment during and after the peak discharge resulting from the inflow design flood, which is based on the Hazard Potential Classification of the CCR surface impoundment (§ 257.82(a)). The regulation also requires the preparation of an initial inflow design flood control system plan (§ 257.82(c)). *See also* 80 FR 21390–21392, April 17, 2015.

The primary activities associated with developing an inflow design flow control system can be summarized as document review, a site visit, hydrologic and hydraulic analyses (as needed), and report generation. Typically, owners and operators hire a P.E.-certified contractor, which, as described above, may take 1–2 weeks. The contractor would then perform a site visit (estimated to take one week) and review available pertinent documentation, such as topographical maps, aerial images, areal hydrological data, the unit's design drawings, the unit's construction reports, as-builts for the unit, previous area-capacity curves, and surface elevation data. EPA anticipates that many of these documents overlap with documents necessary for the history of construction report, hazard potential classification assessment, structural stability assessment, safety factor assessment, and annual inspection requirements, all of which are due no later than 3 months after the effective date of the final rule. Assuming all preceding analyses required by this rule are completed by their deadlines of 3 months after the effective date of the final rule, the review is estimated to take 4–6weeks. Additional analyses, such as site-specific flood modeling and hydrologic and hydraulic (H/H) capacity calculations, may be needed to determine site-specific hydrological conditions or determine if the current H/H capacity is sufficient. These additional analyses are estimated to take

4–6 weeks. Finally, the contractor would generate the P.E.-certified inflow design flood control system plan documenting the design and construction of the flood control system, which may take another 4–6 weeks. Based on these estimates, the total time needed to prepare an initial inflow design control system plan is 14 to 21 weeks. Therefore, EPA is proposing a deadline of 9 months after the effective date of the final rule for this requirement. EPA believes this timeline is sufficient to develop the plan while accounting for the three months allotted for the prerequisite assessments. This is expedited from the deadline in the 2015 CCR Rule by three months for reasons described here in Unit IV.A.2.a.ii of this preamble.

f. Groundwater Monitoring and Corrective Action Criteria for Legacy CCR Surface Impoundments

The existing groundwater monitoring criteria in §§ 257.90 through 257.95 require an owner or operator of a CCR unit to install a system of monitoring wells and specify procedures for sampling these wells. Further, it sets forth methods for analyzing the groundwater data collected to detect hazardous constituents (*e.g.,* toxic metals) and other monitoring parameters (*e.g.,* pH, total dissolved solids) released from the units. 40 CFR 257.93. Once a groundwater monitoring system and groundwater monitoring program have been established for a CCR unit the owner or operator must conduct groundwater monitoring and, if the monitoring demonstrates an exceedance of the groundwater protection standards for identified constituents in Appendix IV of part 257, corrective action is required. These requirements apply throughout the active life and post-closure care period of the CCR unit.

There was widespread agreement among the commenters on the ANPRM that groundwater monitoring requirements would be appropriate for legacy CCR surface impoundments. However, some commenters argued that federal requirements would be duplicative and unnecessary. They suggested that EPA should allow facilities to demonstrate (through EPA review and approval) that the federal groundwater monitoring requirements are not necessary because existing groundwater monitoring systems established under state requirements meet the RCRA subtitle D protectiveness standard. These commenters said that overlapping federal and state groundwater monitoring and corrective action requirements would create regulatory uncertainty, potentially interfering with site-specific plans designed to protect the environment and would ultimately delay work.

EPA is proposing to require legacy CCR surface impoundments to comply with the existing groundwater monitoring and corrective action requirements with one revision, described below, to require sampling and analysis of constituents listed in Appendix IV at the same time as those listed in Appendix III. The existing groundwater monitoring and corrective action requirements are essentially the same requirements that have been applied to both hazardous waste and municipal solid waste disposal units for decades, and with the one exception discussed below, there is nothing about legacy units that makes them distinct enough to warrant separate requirements. EPA disagrees that it would be appropriate as part of this rulemaking to allow facilities to demonstrate (through EPA review and approval) that existing groundwater monitoring systems established under different state requirements could substitute for federal requirements. As EPA has previously explained, in RCRA section 4005(d), Congress established specific standards and mandated the process for EPA to determine that state requirements should operate in lieu of the federal. Under those provisions, a State can apply to obtain authorization from EPA to operate its program (either in whole or in part) in lieu of the federal requirement by demonstrating that either of the standards in RCRA section 4005(d)(1)(B) has been met. Relying on that congressionally mandated process, rather than a separate process created in this rulemaking, is the appropriate route to address the commenters concerns about duplication between federal and state requirements.

i. Design and Installation of the Groundwater Monitoring System for Legacy CCR Surface Impoundments

EPA is proposing that owners and operators of legacy CCR surface impoundments install the groundwater monitoring system as required by § 257.91 no later than six months from the effective date of the final rule. See, proposed regulatory text at § 257.100(f)(4)(i). Existing monitoring wells can be used as a part of that system provided that they meet the federal criteria. Commenters on the ANPRM explained that in some states, the state may require the owner or operator to receive state approval before they can install a groundwater monitoring system. Therefore, the commenters said that one year is inadequate to conduct these activities and two years is a more reasonable timeframe in which to carry out these activities. EPA disagrees that 12 months from the publication date (*i.e.,* 6 months from the effective date) would provide an insufficient amount of time to install groundwater monitoring wells. In the 2015 CCR Rule, EPA allotted 36 months total (from publication) for facilities to both install the wells and complete their baseline sampling. Based on the amount of time most facilities needed to complete or to collect baseline sampling, EPA calculates that facilities were able to install wells within a single year.

To complete the installation of the groundwater monitoring system, the first activity to meet § 257.91(f) may include hiring a contractor that is a qualified P.E. (estimate 1–2 weeks). The next activity may be to develop a workplan that determines the number, location, and depths of monitoring wells, which assumed to be developed based on available historic site characterization information including hydrogeologic setting, engineering design of the CCR unit or other information that may already be compiled in the history of construction requirement (§ 257.73(c)(1)) (estimate 7–9 weeks). Note that any additional site characterization is assumed to occur concurrently with the monitoring well installation. Subsequently, site reconnaissance may be performed along with vegetative clearing and utility locating, and the workplan may be modified to adjust for field conditions as needed (estimate 2 weeks when considering the installation of 10 monitoring wells). The next activity is to drill to depth, install and develop the 10 monitoring wells. The time to drill to depth can vary widely based on the drilling technique, subsurface lithology, site-specific conditions, weather, and other factors. It is estimated that a 100 foot well can be drilled to depth in 5 days at the rate of 20 feet/day. For 10 monitoring wells, the time to drill to depth is assumed to take 10 weeks. The monitoring wells must then be properly installed and constructed in accordance with § 257.91(e) and other requirements. Monitoring well development is assumed to take 3 days per well or 30 days for all 10 wells. The last activity is to develop documentation that records the design, installation, and development of the monitoring wells, subject to P.E. certification and submit monitoring well construction records to the appropriate state and federal agencies (estimate 4–6 weeks). Based on these assumptions, the total time

estimated for installation of a groundwater monitoring system is approximately 27–32 weeks, or 7–8.5 months. This deadline includes an additional 3.5-month buffer to adjust for delays in the field, installation of new additional wells, additional site characterization of newly discovered pertinent subsurface features (*e.g.,* faults, karst features) or other modifications to the workplan based on site-specific information gained during the monitoring well installation. Thus, EPA is proposing to require the installation of the groundwater monitoring system no later than 6 months after the effective date of the final rule.

ii. Development of the Groundwater Sampling and Analysis Program for Legacy CCR Surface Impoundments

EPA is proposing to require owners and operators of legacy CCR surface impoundments to comply with the existing groundwater sampling and analysis program requirements for CCR surface impoundments, including the selection of the statistical procedures that will be used for evaluating groundwater monitoring data. 40 CFR 257.93. See, proposed regulatory text at § 257.100(f)(4)(ii).

Recommendations and information on how to comply with many of the requirements for the groundwater sampling and analysis program (*e.g.,* analytical procedures, QA/QC controls, sampling protocol) can be found in the following EPA guidance documents (*e.g., RCRA Groundwater Monitoring: Draft Technical Guidance,* 1992, EPA/530/R–93/001; *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures,* 1996, EPA/540/S–95/504). To develop the groundwater sampling and analysis program, the first steps would be to hire a contractor (1 to 2 weeks), review the groundwater monitoring system installation and other pertinent records (2 to 4 weeks), and develop the groundwater sampling and analysis program (4 to 6 weeks). Sometimes in complex hydrogeological settings (*e.g.,* groundwater flow reversals surrounding CCR units adjacent to a large river), additional information from synoptic groundwater elevations may be necessary to refine the sampling program (*e.g.,* establish upgradient/downgradient wells) (estimate 2 weeks). Based on these assumptions, the total time estimated to develop a groundwater sampling and analysis program is 9 to 14 weeks. The groundwater sampling and analysis program must include the list of monitoring wells to be sampled (*e.g.,* sampling network). However, the list of monitoring wells to be sampled can only be determined after installation of the groundwater monitoring system which is estimated to take 7 to 8.5 months. If it is assumed that the sampling and analysis program is developed (~2 to 3.5 months) only after the installation of the monitoring network (7.5 to 8 months), the total time needed to meet this requirement is estimated at approximately 9.5 to 11.5 months. Therefore, building in some buffer time to account for any possible delays due to complex hydrogeological settings, EPA is proposing that the sampling and analysis program can be developed no later than 6 months after the effective date of the final rule.

iii. Detection Monitoring Program and Assessment Monitoring Program Combined

To expedite groundwater monitoring and the initiation of corrective measures, EPA is proposing to require sampling and analysis of constituents listed in Appendix IV at the same time as those listed in Appendix III. The combined sampling and analysis of all Appendices III and IV constituents will expedite the initiation of corrective measures, where needed, by at least 6 months.

The existing CCR regulations establish a phased groundwater monitoring program, consisting of a separate detection monitoring program, assessment monitoring program, and corrective action program. Groundwater monitoring begins with detection monitoring by conducting statistical comparisons between (1) the background level of a constituent measured in one or more upgradient wells and (2) the level of that same constituent in a downgradient well. The constituents monitored in detection monitoring are listed in Appendix III and are generally constituents that are designed to provide early evidence of a potential release (*e.g.,* are highly mobile). If the concentration of the constituent in the downgradient well is higher than the background concentration by a statistically significant amount, (*i.e.,* a statistically significant increase (SSI) over background has been detected), this provides evidence of a potential release from the unit.

If an SSI is detected, the owner or operator must proceed to the next step, assessment monitoring. Assessment monitoring requires sampling and analysis for the full list of constituents included in Appendix IV. In assessment monitoring, concentrations of each Appendix IV constituent at downgradient wells are compared to a groundwater protection standard established for each constituent (either a background level or a regulatory limit). Whenever assessment monitoring results indicate a statistically significant level (SSL) exceeding the groundwater protection standard has been detected at a downgradient well for any of the Appendix IV constituents, the facility must start the process for cleaning up the contamination by characterizing the nature and extent of the release and of site conditions that may affect the cleanup, and by initiating an assessment of corrective measures.

EPA is proposing to require that facilities simultaneously initiate sampling and analysis of all Appendix III and IV constituents at legacy CCR surface impoundments to expedite the cleanup of contamination from these abandoned unlined impoundments. EPA is proposing no other revisions to the existing groundwater monitoring requirements in §§ 257.90 through 257.95.

Although in 2015 EPA applied the same groundwater monitoring requirements to both existing and new CCR units, the phased approach to groundwater monitoring is best suited to situations where there is little likelihood of pre-existing contamination, such as for new units. A phased approach provides for a graduated response over time to the problem of groundwater contamination as the evidence of such contamination increases. This allows for proper consideration of the transport characteristics of CCR constituents in groundwater, while protecting human health and the environment. In contrast, at sites where the unit has potentially been leaking for a long period of time, these advantages are outweighed by the need to protect human health and environment by quickly detecting the constituents of concern in Appendix IV to expedite any necessary corrective action. See, *USWAG* 901 F.3d at 427–30. Moreover, there is good reason to believe that many legacy CCR surface impoundments are contaminating groundwater, given the large number of presently regulated CCR surface impoundments that have been found to be leaking.

iv. Detection Monitoring Program and Assessment Monitoring Program—Deadline for Collection and Analyses of Eight Independent Samples for Legacy CCR Surface Impoundments

EPA is proposing that no later than 24 months after the effective date of the final rule, owners or operators of legacy CCR surface impoundments initiate the detection monitoring program by

completing sampling and analysis of a minimum of eight independent samples for each background and downgradient well, as required by § 257.94(b). See proposed regulatory text at § 257.100(f)(4)(iii). Within 90 days after that, they must identify any SSIs over background levels for the constituents listed in Appendix III, as required by § 257.94. To expedite the time to initiate any required corrective action, EPA is also proposing that by this same deadline they initiate the assessment monitoring program by establishing groundwater protection standards and beginning the evaluation of the groundwater monitoring data for an SSL over groundwater protection standards for the constituents listed in Appendix IV as required by § 257.95. Then, if an SSL over a groundwater protection standard (GWPS) for any of the constituents listed in Appendix IV is found, the owner or operator of the legacy CCR surface impoundment must perform any required corrective action in accordance with §§ 257.96 through 257.98.

Several commenters on the ANPRM stated that it would be appropriate to have a fully operational groundwater monitoring systems in place and begin detection monitoring two years from the rule's effective date and then to follow the same groundwater monitoring requirements as units subject to the 2015 CCR Rule. These commenters said that as important as it is to begin detecting and addressing releases to groundwater, it is equally important that these complex systems be designed and installed correctly. According to the commenters, the design and installation of a groundwater monitoring system generally entails a number of activities, many of which must occur sequentially, including determining the uppermost aquifer, deciding whether to install a single or multiunit monitoring system, collecting and evaluating hydrogeological information that can be used to model the site, characterizing the site geology, characterizing the groundwater flow beneath the site, determining the flow direction and hydraulic gradient, establishing horizontal and vertical flow direction, determining hydraulic conductivity, determining groundwater flow rate, determining the monitoring wells' placement, selecting the drilling method, designing the monitoring wells, developing sampling and analysis procedures, choosing a statistical method for evaluating the data, and beginning detection monitoring.

v. Initial Groundwater Monitoring and Corrective Action Report for Legacy CCR Surface Impoundments

EPA is proposing to apply the existing requirements in § 257.90(e) to legacy CCR surface impoundments and that owners and operators of legacy CCR surface impoundments comply no later than January 31 of the year following the calendar year a groundwater monitoring system has been established (and annually thereafter). See proposed regulatory text at § 257.100(f)(4)(iv). This requires the preparation of an annual groundwater monitoring and corrective action report. The report must contain specific information identified in the regulations, including but not limited to maps; aerial images or diagrams showing the CCR unit and all upgradient (background) and downgradient wells; identification of any monitoring wells installed or decommissioned in the previous year; monitoring data collected under §§ 257.90 through 257.98, and a narrative discussion of any transition between monitoring programs (*i.e.,* detection and assessment monitoring). Since EPA is proposing to expedite the baseline monitoring initiation of detection monitoring, and initiation of assessment monitoring, the requirement to prepare and post the first annual groundwater monitoring and corrective action report should also be expedited. This will allow the public to review the groundwater monitoring results.

g. Closure and Post-Closure Care Criteria for Legacy CCR Surface Impoundments

The existing closure and post-closure care criteria in §§ 257.101 through 257.104 establish specific performance standards relating to the closure and the subsequent monitoring and maintenance of CCR units. These criteria are essential to ensuring the long-term safety of closing CCR units. A brief overview of the existing requirements is presented in Unit IV.A.2.f.i of this preamble.

The regulations currently provide two options for closing a CCR unit: closure by removal and closure with waste in place. See § 257.102(a). Each option establishes specific performance standards that must be met in their entirety. See § 257.102(c) and (d). If the performance standards for each option can both be met, the regulations allow a facility to select either of the options. However, a facility must meet all of the performance standards for the closure option it has selected, and if it cannot meet all of the performance standards for one option, then it must select the other option and meet all of the performance standards for that option. See § 257.102(a).

The existing CCR regulations also include timeframes to initiate and complete closure activities, as well as criteria under which owners or operators may obtain time extensions due to circumstances beyond the facility's control. See §§ 257.101 through 257.102. Finally, owners and operators are required to prepare closure and post-closure care plans describing these activities. See §§ 257.102(b), 257.104(d). EPA is proposing to make the existing regulations applicable to legacy CCR surface impoundments as discussed specifically below.

First, based on the data gathered since 2015 from the currently regulated CCR unit universe, the Agency considers it highly unlikely that any legacy CCR surface impoundment has a composite liner that meets the requirements of § 257.71. EPA analyzed the list of inactive CCR facilities provided in the ANPRM comments and knows that almost all these facilities were opened prior to 1990 (one facility opened in 1996) before composite liner systems were typically installed. Unless legacy CCR surface impoundments are very different than impoundments at active facilities, EPA expects units of this age to be unlined as defined by § 257.71. Consistent with the *USWAG* decision and the existing regulations in § 257.101(a) mandating that all unlined (including clay-lined) impoundments must close, EPA is proposing to explicitly require that all legacy CCR surface impoundments initiate closure within 12 months of the effective date of final rule, rather than simply relying on the existing provision in § 257.101(a). See, proposed regulatory text at § 257.101(e). Legacy CCR surface impoundments pose unacceptable risks because they continue to impound liquid, even if closure has been initiated or a cover system has been installed.

Second, EPA is proposing to explicitly state that the alternative closure demonstration provisions in § 257.103(f) would not be applicable to legacy CCR surface impoundments. As a legacy CCR surface impoundment, by definition, is an inactive impoundment at an inactive facility, EPA does not believe that any facility will need to continue to use the unit. Because a continued need to use the disposal unit is a critical component of the alternative closure demonstrations, it appears that no legacy CCR surface impoundment could qualify under the existing provisions. Accordingly, EPA does not believe these provisions are relevant to legacy CCR surface impoundments.

i. ANPRM Comments Regarding Closure

Commenters on the ANPRM generally agreed that closure requirements are appropriate for legacy CCR surface impoundments. However, they disagreed on the precise requirements that would be appropriate. Some commenters said a legacy CCR surface impoundment that has been closed in place must be required to re-close if not closed in a manner that meets or exceeds the 2015 CCR Rule's provisions for closure in place. They also said that EPA must not exempt legacy CCR surface impoundments from closure requirements unless the impoundment was closed in full compliance with either the closure mandate for removal set out at § 257.102(c), or the closure performance standards, drainage and stabilization directives, and cover system requirements set out at § 257.102(d).

Other commenters on the ANPRM agreed that closure and post-closure requirements would be appropriate for legacy CCR surface impoundments but stated that the requirements should account for distinctive elements of some legacy CCR surface impoundments. According to these commenters, over decades, some legacy CCR surface impoundments have become ecosystems that support protected species or feature wetlands. These commenters raised concern that closure activities could compromise these ecosystems or species whereas leaving the environment undisturbed is preferable. These commenters stated that if EPA requires closure of these units, owners should not be required to obtain necessary approvals or mitigate impacts to aquatic resources or protected species under other laws. One commenter on the ANPRM said EPA should not require legacy CCR surface impoundments completing closure by removal to meet the groundwater performance standards.

Some commenters said EPA should rely on RCRA section 1006(b) to include a provision in any final rule addressing legacy CCR surface impoundments that any closure plan for a legacy CCR surface impoundment approved by a state or federal agency prior to the effective date of any new regulations would be considered compliant with the new regulations. According to these commenters, many units are or will be in the process of closing impoundments pursuant to consent orders, agreements, and/or state regulatory programs, and forcing units that are in active closure or that have completed closure to comply with a new set of requirements risks undoing the careful planning that has already occurred with state or federal agencies. These commenters further stated that ''such redundant and retroactive regulation also risks delaying the closure process and requiring closure work to be redone.'' According to these commenters, confirming that units implementing closure plans approved by a state or federal agency would be deemed compliant with the final legacy CCR surface impoundment regulations (or that the underlying units are otherwise exempt from the final regulations) would avoid duplicative, retroactive regulation of such units, and would allow the regulated community and impacted states to rely on the closure plans already in place, and would prevent any delay in completion of closure activities that could be attributed to uncertainty of the application of requirements for the final rule.

Although several commenters alleged that the closure of legacy CCR surface impoundments would itself present greater risks than leaving the disposal unit in its existing state, no commenter presented any data or analysis to support their claims. EPA also lacks a factual basis to exempt legacy CCR surface impoundments in the process of completing closure by removal from the requirement to meet the groundwater performance standards. In the absence of any record to support a conclusion that these suggestions meet the statutory standard in RCRA section 4004(a), EPA cannot adopt them. EPA invites comments from those with concrete data or analysis, if any, about any specific legacy CCR surface impoundments as it relates to these questions.

EPA also disagrees that it would be appropriate to establish an exemption for facilities that are currently in the process of closing under state requirements. The commenters provided no factual record of the various state information regarding particular state requirements, but merely generically reference the existence of state requirements. This is insufficient information for the Agency to evaluate how the state requirements compared to the federal requirements. Such a factual record would be necessary to support any kind of exemption or other action pursuant to RCRA section 1006(b). More to the point, as discussed previously, the appropriate mechanism to address concerns about potentially duplicative state and federal requirements is through Congressionally-mandated process in RCRA section 4005(d), under which a state seeks approval to operate its permit program in lieu of the federal program, rather than this rulemaking.

ii. Preparation of a Written Closure Plan for Legacy CCR Surface Impoundments

EPA is proposing that owners and operators of legacy CCR surface impoundments comply with the existing requirements of § 257.102(b) requiring the preparation of a written closure plan. See proposed regulatory text at § 257.100(f)(5)(i). The closure plan describes the steps necessary to close a CCR unit at any point during the active life of the unit based on recognized and generally accepted good engineering practices. 40 CFR 257.102(b)(1). The plan must set out whether the closure of the CCR unit will be accomplished by leaving CCR in place or through closure by removal and include a written narrative describing how the unit will be closed in accordance with the section, or in other words, how the closure will meet all the performance standards in the regulations. 40 CFR 257.102(b)(1)(i). If the CCR is left in place, the closure plan must include a description of the final cover system and how the final cover system will achieve the regulatory performance standards. If the base of the impoundment intersects with groundwater, the closure plan would need to discuss the engineering measures taken to ensure that the groundwater had been removed from the unit prior to the start of installing the final cover system, as required by § 257.102(d)(2)(i). The closure plan would also need to describe how the facility plans to meet the requirements in § 257.102(d)(1) to ''control, minimize or eliminate, to the maximum extent feasible, post-closure infiltration of liquids into the waste and releases of CCR, leachate, or contaminated run-off to the ground or surface waters.'' This could include for example, the installation of engineering controls that would address the post-closure infiltration of liquids into the waste from all directions, as well as any post-closure releases to the groundwater from the sides and bottom of the unit. The written closure plan must also provide a schedule for completing all activities necessary to satisfy the closure criteria of the rule. *See also* 80 FR 21410–21425, April 17, 2015.

Some commenters said EPA should provide phased and reasonable compliance deadlines for the development of closure plans prior to initiation of any groundwater monitoring or closure work. Other commenters acknowledged the Agency provided 18 months from promulgation of the 2015 CCR Rule for plants to develop their closure and post-closure plans and that the amount of time was

partly dictated by the Agency's commitment to harmonizing the 2015 CCR Rule with the ELG Rule. Commenters shared that consideration of new ELG requirements would not be an issue for legacy CCR surface impoundments; therefore, a shorter planning horizon is reasonable for legacy CCR surface impoundments such as 6 months from the effective date of a legacy CCR surface impoundment rule. The commenters further said that planning is only the first step while unit closure itself can take years depending on factors such as the size and type of unit. Legacy CCR surface impoundments would likely require similar closure timeframes, and possibly additional time if site-specific accommodations are required such as the presence of a listed or endangered species. Some commenters agreed that the closure timeframe provided in the 2015 CCR Rule may be reasonable for legacy CCR surface impoundments. Other commenters said six months should be the bare minimum for owners to develop any closure and post-closure care plans for legacy CCR surface impoundments as closure activities cannot begin until the closure plan is in place.

When preparing the closure plan, the owner or operator would first need to hire a contractor to complete the report (1–2 weeks). Next, it is assumed that the contractor will need to review site-specific documents, assessments, and analyses that were completed earlier to meet requirements for other parts of the rule that may impact the closure plan. Examples of existing documents and assessments reviewed may include history of construction, initial structural stability assessment, initial safety factor assessment, initial hazard potential classification, hydraulic and hydrologic analyses for inundation maps and potential impact area, annual inspections, groundwater monitoring system, and groundwater sampling and analysis reports. Assuming all preceding analyses are completed by their deadlines of 6 months after the effective date of the final rule, the next step is to review existing documents and assessments (estimate 4–6 weeks). The next step is to prepare the written closure plan with the requirements in § 257.102(b) through (j). Since the listed activities are primarily desktop-related and depend on predecessor requirements, EPA is proposing a deadline of 12 months after the effective date of the rule to complete the closure plan. EPA is expediting this deadline for the reasons described above in Unit IV.A.2.a.ii of this preamble.

iii. Preparation of a Written Post-Closure Care Plan for Legacy CCR Surface Impoundments

EPA is proposing that owners and operators of legacy CCR surface impoundments would be required to comply with the existing requirement in § 257.104(d) regarding the preparation of a written post-closure. See, proposed regulatory text at § 257.100(f)(5)(ii). Section 257.104(d) requires that an owner or operator of a CCR unit prepare a written post-closure plan. The content of the plan includes among other things, a description of the monitoring and maintenance activities required for the unit and the frequency that these activities will be performed.

When developing the post-closure care plan, EPA assumes the contents of the P.E.-certified plan are stated in the rule § 257.104(d)(1)(i) through (iii) and can be summarized as planned monitoring and maintenance activities, contact information during post-closure care period and planned uses of the property. The steps to prepare the post-closure care plan are assumed to be the same as the closure plan, with different analysis needed for the post-closure care period. Since the listed activities are primarily desktop-related and depend on a number of predecessor requirements, described in Unit IV.A.2.g.i of this preamble, related to the closure plan, EPA is proposing to require the post-closure care plan no later than 12 months after the effective date of the final rule. EPA is expediting this deadline for the reasons described above in Unit IV.A.2.a.ii of this preamble.

iv. Initiation of Closure for Legacy CCR Surface Impoundments

As discussed above, the current record indicates that legacy CCR surface impoundments are largely, if not entirely, unlined, and therefore, EPA is proposing that they be subject to the existing requirement to initiate closure that are applicable to other unlined CCR surface impoundments. See 40 CFR 257.101. Specifically, EPA is proposing that owners and operators of legacy CCR surface impoundments initiate closure no later than 12 months after the effective date of the final rule. See proposed regulatory text at § 257.101(e)(1). This is 30 months sooner than the earliest date under the 2015 CCR Rule that owners or operators of CCR units were required to initiate closure and is expedited for the reasons described above in Unit IV.A.2.a.ii of this preamble. EPA considered requiring initiation of closure sooner but believes that 12 months is the minimum amount of time necessary to collect the information needed to determine whether to close the unit in place or close by removal. Such information would include the identification and delineation of the legacy CCR surface impoundment, the structural stability of the unit, the hydrogeology of the site, and other site characteristics of the site, and whether any of the uppermost aquifer has been contaminated, as well as any other relevant engineering information needed to design the closure. Because many of the legacy CCR surface impoundments have not been monitored for some time, this information may not be currently available. However, most of this information can be obtained through compliance with the groundwater monitoring and corrective action requirements that EPA is proposing to establish, as discussed above. Twelve months will provide sufficient time to complete the steps necessary to obtain this information. Once the owner and/or operator has the necessary information, they can develop a closure plan and initiate closure.

One commenter said there should be no mechanism to extend the time to initiate closure. EPA agrees and, consistent with the existing requirements for inactive unlined impoundments in § 257.101(a), the Agency is not proposing to establish a mechanism to extend the deadline to initiate closure.

Finally, as an alternative to requiring the closure of a legacy CCR surface impoundment, the Agency solicits comment on whether the regulations should provide owners and operators the option to retrofit a legacy CCR surface impoundment in accordance with the retrofit requirements in § 257.102(k).

v. Deadline To Complete Closure for Legacy CCR Surface Impoundments

The existing CCR regulations currently require (at § 257.102(f)) an owner or operator of existing and new CCR surface impoundments generally to complete closure activities within five years from initiating closure. The regulations also establish the conditions for extending this deadline, as necessary, including documentation requirements. EPA is proposing that owners and operators of legacy CCR surface impoundment comply with the existing closure completion timeframes in § 257.102(f). Most commenters agreed that units should be provided the same amount of time to complete closure as in the existing provisions.

vi. Post-Closure Care for Legacy CCR Surface Impoundments

The existing post-closure care criteria require the monitoring and maintenance of units that have closed in place for at least 30 years after closure has been completed. 40 CFR 257.104. During this post-closure period, the facility would be required to continue groundwater monitoring and corrective action, where necessary. EPA is proposing to apply these existing requirements to legacy CCR surface impoundments without revision. These criteria are essential to ensuring the long-term safety of legacy CCR surface impoundments.

h. Recordkeeping, Notification, and Internet Posting Criteria for Legacy CCR Surface Impoundments

The 2015 CCR Rule required at §§ 257.105 through 257.107 for owner or operators of CCR units to record certain information in the facility's operating record. In addition, owners and operators are required to provide notification to states and/or appropriate Tribal authorities when the owner or operator places information in the operating record, as well as to maintain a CCR website for this information. Commenters on the ANPRM agreed that recordkeeping, notification and website reporting requirements are appropriate for legacy CCR surface impoundments.

EPA is proposing that owners and operators of legacy CCR surface impoundments be subject to the existing recordkeeping, notification and website reporting requirements in the CCR regulations. The CCR regulations require the owner or operator of a CCR unit(s) to maintain files of all required information (*e.g.,* demonstrations, plans, notifications, and reports) that supports implementation and compliance with the rule. Each file must be maintained in the operating record for a period of at least five years following submittal of the file into the operating record. Submittal into the operating record is required at the time the documentation becomes available or by the specific compliance deadline. Section 257.105 contains a comprehensive listing of each recordkeeping requirement.

Owners or operators are also required to notify State Directors and/or the appropriate Tribal authority when specific documents have been placed in the operating record and on the owner's or operator's CCR website. In most instances, these reports must be certified by a P.E. and may, in certain instances, be accompanied by additional information or data supporting the notification. Notification requirements can be found at § 257.106, and are required for location criteria, design criteria, operating criteria, groundwater monitoring, corrective action, closure, and post-closure care.

Commenters on the ANPRM agreed that owners or operators of CCR facilities should be required to establish a publicly accessible website where facilities are required to post relevant information demonstrating compliance with all applicable requirements. They agreed the website should not be hosted by the state or EPA. They also said the website should be required to be activated by the effective date of the final rule.

EPA is proposing that owners and operators of legacy CCR surface impoundments are also required to establish and maintain a website titled, ''CCR Rule Compliance Data and Information.'' Unless provided otherwise in the rule, information posted to the publicly accessible internet site must be available for a period no less than 5 years from the initial posting date for each submission. Posting of information must be completed no later than 30 days from the submittal of the information to the operating record. EPA is proposing that owners and operators of legacy CCR surface impoundments have 30 days from the effective date of the final rule to post applicable information on their CCR website.

B. CCR Management Unit Requirements

EPA is proposing to establish requirements to address the risks from currently exempt solid waste management of CCR that involves the direct placement of CCR on the land. Information obtained since 2015 demonstrates that these exempt solid waste management practices are currently contaminating groundwater at many sites, and at others, have the potential to pose risks commensurate with the risks associated with currently regulated activities. The specific solid waste management activities at issue are: CCR disposal in surface impoundments and landfills that closed prior to the effective date of the 2015 CCR Rule, disposal in inactive CCR landfills, and any solid waste management that involves the placement or receipt of CCR directly on the land.

As discussed in more detail below, EPA estimates that these solid waste management practices could pose lifetime cancer risks from arsenic as high as 2×10^{-5} to 1×10^{-3} (*i.e.,* 2 to 100 cases of cancer for every 100,000 individuals exposed), depending on the specific management practice. In addition, EPA has identified recent damage cases, described in Unit IV.B.2 of this preamble, indicating that these management practices have contaminated groundwater at currently regulated facilities,[15] through releases of constituents commonly found in CCR, such as arsenic, lithium and molybdenum.

Based on these data, EPA is proposing to establish a new category of units that would be subject to a set of requirements tailored to the characteristics of such units and the risks that they present. These requirements would include the existing criteria in the CCR regulations for groundwater monitoring, corrective action, closure, and post-closure care.

1. Risk Analysis of CCR Management Units

a. Summary of 2014 Risk Record

EPA conducted a national-scale, probabilistic analysis in 2014 titled, Human and Ecological Risk Assessment of Coal Combustion Residuals (2014 Risk Assessment),[16] that characterized potential risks to human and ecological receptors associated with leakage from CCR surface impoundments and landfills in operation at that time. A combination of models was used to predict fate and transport of contaminants through the environment, receptor exposures, and the resulting risks to human and ecological receptors. The specific exposure routes evaluated were: (1) Human inhalation of particulate matter blown from open management units, (2) Human ingestion of crops and livestock raised on nearby fields, (3) Human ingestion of groundwater used as a source of drinking water, (4) Human ingestion of fish caught from freshwater streams, and (5) Ecological contact with and ingestion of surface water and sediment. Site-specific data were used where available, supplemented by regional and national data to fill data gaps, to capture the variability of waste management practices, environmental conditions, and receptor behavior. EPA reported risks for both highly exposed individuals and more moderately exposed individuals. Risks to highly exposed individuals represent a reasonable maximum estimate that members of the general population might be exposed to, which were

[15] Under part 257, subpart D, new and existing CCR landfills and surface impoundments, including any lateral expansions of these units, as well as inactive CCR surface impoundments are currently regulated.

[16] U.S. EPA. 2014. ''Human and Ecological Risk Assessment of Coal Combustion Residuals.'' RIN 2050–AE81. Office of Solid Waste and Emergency Response. Washington, DC. December.

calculated as the 90th percentiles of all probabilistic model results. Risks to moderately exposed individuals represent a more typical estimate that members of the general population might be exposed to, which were calculated as the 50th percentiles of all probabilistic model results.

Under RCRA, EPA typically relies on a risk range to determine the point at which regulation is appropriate. EPA uses as an initial cancer risk ''level of concern'' a calculated risk level of 1×10^{-5} (one in one hundred thousand) or a hazard quotient (HQ) above 1.0 for any noncarcinogenic risks. For example, wastestreams for which the calculated high end individual cancer-risk level is 1×10^{-5} or higher generally are considered candidates for regulation. Wastestreams whose risks are calculated to be 1×10^{-4} (one in ten thousand) or higher generally will be considered to pose a substantial present or potential hazard to human health and the environment and generally will be regulated. Wastestreams for which these risks are calculated to be 1×10^{-6} (one in one million) or lower, and lower than 1.0 HQ or environmental risk quotients for any noncarcinogens, generally will be considered not to pose a substantial present or potential hazard to human health and the environment and generally will not be regulated. See 80 FR 21449; 59 FR 66075–66077, December 22, 1994.

EPA first evaluated national-scale risks, as documented in the 2014 Risk Assessment, which provide a snapshot in time of potential risks across the country. This was accomplished by weighting risks from individual management practices in proportion to the anticipated prevalence of those practices. National-scale risks provide important context as to whether risks are a systemic issue that warrant national regulations or are limited in scope and better addressed through more targeted actions. The Agency's evaluation found that the management practices that EPA believed were generally in current use at surface impoundments and landfills were likely to pose risks to human health through groundwater exposure within the range that EPA typically considers warranting regulation. For highly exposed individuals, the cancer risks from arsenic due to the operation of surface impoundments were as high as 2×10^{-4} and noncancer risks from both lithium and molybdenum were as high as an HQ of 2, while the cancer risks associated with the operation of landfills were estimated to be as high as 5×10^{-6} from the ingestion of arsenic-contaminated drinking water. In contrast, all risks for moderately exposed individuals fell below EPA's risk range. This was largely attributed to the fact that many facilities are located next to major water bodies and so contaminant plumes were frequently intercepted by these water bodies before they could reach private wells.

EPA next evaluated the risks associated with individual management practices at surface impoundments and landfills. This was accomplished by filtering the national-scale model runs to focus only on those that included the practice of interest and using the filtered set of runs to calculate risks associated with that specific practice. These individual risks provide important context about the range of contaminants and practices that could pose risk at individual sites. The Agency's evaluation identified two specific management practices that could lead to risks higher than those identified in the national risk estimates.

The first practice EPA evaluated was the disposal of CCR in unlined and clay-lined units. Management in unlined surface impoundments resulted in cancer risks for arsenic up to 3×10^{-4}, as well as noncancer risks for lithium up to an HQ of 3, molybdenum up to an HQ of 4, and thallium up to an HQ of 2. Management in unlined landfills resulted in cancer risks for arsenic up to 2×10^{-5}. The larger increase in arsenic risks identified for unlined landfills above those for national-scale landfills (2×10^{-5} vs. 5×10^{-6}) compared to unlined and national-scale impoundments (3×10^{-4} vs. 2×10^{-4}) is because a larger proportion of landfills nationwide were initially modeled as having a liner. Since promulgation of the 2015 CCR Rule, it has become clear that more landfills are unlined than originally estimated. Thus, it is anticipated that national-scale risks for landfills would actually be closer to those for unlined units (2×10^{-5}), rather than the lower estimates reported in the 2014 Risk Assessment.

Although clay-lined units tended to have lower risks than unlined units, they still had potential to result in risks within the range that EPA considers for regulation under RCRA. Management in clay-lined impoundments with a liner thickness of three feet resulted in cancer risks for arsenic of up to 7×10^{-6} and noncancer risks for lithium up to an HQ of 2, while management in similarly lined landfills resulted in cancer risks for arsenic up to the 1×10^{-5}. The larger increase in arsenic risks for unlined impoundments above those for clay-lined impoundments (1×10^{-5} vs. 7×10^{-6}) compared to unlined and clay-lined landfills (2×10^{-5} vs. 1×10^{-5}) is because the layer of low conductivity clay counteracts the hydraulic head in impoundments that would otherwise freely drive greater volumes of leachate into the subsurface.[17] In contrast, leachate generation in both types of landfills is limited far more by the rate of precipitation. As a result, EPA further considered how reducing the modeled clay liner thickness of impoundments to the minimum allowable standard of two feet would affect arsenic risk and found it would increase to as high as 2×10^{-5}.

The second practice evaluated was the management of wastes with an extreme pH. In particular, empirical porewater data revealed that co-management of CCR with other wastes in surface impoundments had the potential to result in a highly acidic pH, cancer risks for arsenic up to 1×10^{-3}, and noncancer risks for cobalt and mercury up to an HQ of 13 and 5, respectively. Laboratory leaching test data also indicated that highly acidic and basic CCR wastes have the potential to leach similarly high arsenic concentrations, up to an order of magnitude higher than under more neutral conditions. Only a small number of previous landfill model runs considered acidic conditions based on the information available about conditions in active units; identified risks for these units were driven by more basic conditions. Thus, to the extent that at conditions at either extreme of the pH scale are more prevalent than previously estimated, it is likely that overall risks from disposal in both surface impoundments and landfills would be even higher than modeled.

EPA acknowledged in the 2014 Risk Assessment that there were some additional management practices that may result in higher risk at individual sites, but that could not be quantitatively modeled with the data available at the time. One specific example provided was of CCR disposal below the water table. EPA was unable to quantitatively model the associated risks as there was little data on how common this practice was or the extent to which it could affect groundwater chemistry. Because EPA could not quantitatively model these management practices (and because the Agency had no information to indicate that it was a current, widespread management practice), EPA noted only that, based on its review of damage cases, the damage from the placement of CCR in sand and

[17] The somewhat higher risks identified for clay-lined landfills compared to similarly lined impoundments are likely related to site-specific conditions, such as where in the country these units are located.

gravel pits was almost always associated with CCR being placed in contact with water, which indicated that the placement of CCR in contact with water can lead to higher risks than from dry disposal. 80 FR 21352, April 17, 2015. EPA further explained that ''in this situation, the sorption that occurs in the unsaturated zone of the risk assessment model does not occur in the field. This and other site-specific risk factors could lead to additional contamination beyond what was modeled nationwide.'' 2014 Risk Assessment at pages 5–48. As a consequence, EPA specifically included sand and gravel pits that received CCR in the definition of CCR landfills covered by the regulations. 80 FR 21354.

EPA believes the groundwater data that have since been collected from monitoring systems installed around surface impoundments and landfills generally validates the findings of the 2014 Risk Assessment. For example, one limited analysis from 2019 of the groundwater data collected as part of the required facility monitoring programs found arsenic, molybdenum, and lithium are the constituents most likely to be found at concentrations above GWPS in compliance wells.[18] These data broadly confirm that these three constituents, which were identified as the primary risk drivers by national-scale modeling, are among those found most frequently at elevated levels in site groundwater monitoring wells.

b. Risks From Historical Disposal Units

The 2014 Risk Assessment could not directly model risks associated with disposal units that had previously closed or become inactive, as there was little to no information available about the numbers, locations, and characteristics of these historical units. However, based on information obtained since 2015, EPA now expects that risks posed by the management of CCR in inactive or closed landfills and closed surface impoundments at electric utilities could pose risks to nearby receptors that are, at a minimum, similar to the levels and kinds of risks posed by the currently regulated universe of CCR landfills and surface impoundments.

The unregulated units contain similar types of ash and are located on the same facilities, often in close proximity to and sometimes underneath the currently regulated units. Therefore, the risks associated with historical impoundments and landfills are expected to be similar to those modeled for the currently regulated units. Even if the historical impoundments have subsequently been at least partially dewatered or have undergone some kind of closure, the current absence of impounded water does not negate the releases that occurred during operation of the unit. In addition, if precipitation can continue to freely migrate into the unit, (*e.g.,* because it lacks an effective cover system), any leachate generated as a result would be a potential ongoing source of contamination, particularly where the unit is already leaking or in contact with groundwater. In general, it is expected that these historical units have been present for longer than the currently operating units at the same sites and so would have had more time to leak. As a result, previous and ongoing releases from these historical units could potentially be greater and have migrated further from the unit than releases from the currently regulated universe of units. Furthermore, as described below, there are a number of additional reasons to believe that the potential magnitude of releases from historical disposal is even greater than EPA modeled in 2014 for the currently regulated units.

First, many facilities have historically disposed of CCR in landfills and surface impoundments that lack adequate liner systems. Based on surveys conducted by EPA between 2009 and 2010 (hereafter ''EPA surveys''), EPA estimated in the 2014 Risk Assessment that 33% of landfills and 17% of impoundments had composite liners.[19] It has since become clear that even fewer units are lined. EPA's review of liner demonstration documents posted on facilities' CCR websites found that only 8% of landfills and 6% of impoundments in operation attest to having a standard or alternative composite liner. It is unlikely that historical units were lined at higher rates, particularly those constructed prior to the promulgation of minimum standards for disposal in RCRA subtitle D landfills in 1991. See, 40 CFR part 257, subpart A and part 258. Most of the coal-fired utilities in the United States were constructed before 1990.[20] Therefore, the risks associated with historical disposal units are likely to be at least as high as 2×10^{-5} based on the estimates of the risks associated with the management of CCR in unlined landfills in the 2014 Risk Assessment. This risk estimate for historical landfills would be almost an order of magnitude higher than the national-scale risks associated with the management of CCR in landfills modeled in the 2014 Risk Assessment. This risk estimate would also be twice the level of risk that EPA typically considers for regulation and is the same level of risk as those associated with the clay-lined CCR surface impoundments that the D.C. Circuit required to close.

Second, some facilities conduct coal preparation activities prior to combustion. These activities may include coal handling by conveyor systems, coal washing for removing mineral matter, and coal ''sizing'' to reduce the average particle size of coal. The wastes generated from coal preparation activities are collectively referred to as ''coal refuse.'' Some facilities have been known to dispose of coal refuse together with CCR. Such co-disposal can have a pronounced effect on the leaching behavior of CCR because of the potential for the refuse to make the overall waste pH far more acidic. Available Leaching Environmental Assessment Framework (LEAF) leaching data considered in the 2014 Risk Assessment show that multiple Appendix IV constituents are most soluble at an acidic pH and thus able to leak at higher rates. As a result, EPA found modeled risks were often highest when CCR was disposed with coal refuse. For example, the modeled cancer risks for the co-disposal of ash and coal refuse (pH 1.7–8.2) in surface impoundments ranged between 1×10^{-3} for trivalent arsenic to 4×10^{-4} for pentavalent arsenic. Non-cancer risks were similarly high, ranging between and an HQ of 13 for cobalt and HQ of 14 for pentavalent arsenic to 26 for trivalent arsenic, based on the ingestion of contaminated drinking water.

The practice has declined over time. A survey conducted by Electric Power Research Institute (EPRI) in 1995 showed 34 percent of unlined landfills and 68 percent of unlined surface impoundments actively managed CCR with coal refuse.[21] In contrast, EPA surveys indicated that, by 2014 this management practice had declined to around 5% of all operating units. EPA's 2014 national-scale modeling was based on the 5% reported in the EPA surveys, and as a consequence, this practice had minimal influence on the overall

[18] Environmental Integrity Project. 2019. ''Coal's Poisonous Legacy: Groundwater Contaminated by Coal Ash Across the U.S.''

[19] U.S. EPA. 2014. ''Human and Ecological Risk Assessment of Coal Combustion Residuals.'' RIN 2050–AE81. Office of Solid Waste and Emergency Response. Washington, DC. December.

[20] United Stated Energy Information Administration. 2017. ''Most Coal Plants in the United States were Built Before 1990.'' Accessed online at: *https://www.eia.gov/todayinenergy/detail.php?id=30812.*

[21] EPRI. 1997. ''Coal Combustion By-Products and Low-Volume Wastes Comanagement Survey.'' Palo Alto, CA. June.

nationwide risk estimates in the 2014 Risk Assessment. However, it is clear from the EPRI data that management of CCR with coal refuse used to be far more common. Therefore, the risks associated with historical disposal units, such as closed units or inactive landfills, are likely to be higher than the national-scale risks reported in the 2014 Risk Assessment.

Finally, it is known that facilities have disposed of CCR in units that either have been constructed beneath the water table or have since become inundated with groundwater. EPA's review of the location restriction demonstrations posted on facilities' CCR websites found that approximately 31% of operating impoundments have waste below the water table; similar data are not available for landfills. EPA previously identified disposal below the water table as a management practice that could result in higher risks than those modeled in the 2014 Risk Assessment. Since promulgation of the 2015 CCR Rule, it has become apparent that the practice of disposing of CCR below the water table is more common than previously understood. Given that most historical landfills and impoundments are located on the same sites as the currently operating units, and are therefore located in the same hydrogeologic environments, there is good reason to believe that such units at some of these sites were constructed in contact with the water table or have since become inundated with groundwater.

The greater prevalence of this management practice has significant implications for the risks associated with CCRMU. First, a CCR landfill saturated with water during operation, either continuously or intermittently, would have behaved more like an operating CCR surface impoundment, even though such a unit would not have the hydraulic head from ponded water present in an operating impoundment. The hydraulic head from the ponded water in an operating impoundment unit allows for continual leaching of contaminants from the CCR and drives the resulting leachate into underlying soils and potentially into the underlying aquifer. However, where any part of the unit is actually constructed below the water table, the conditions caused by the continuous saturation of the CCR by the groundwater flowing in and out of the unit allow the contaminants in the unit to continuously leach directly into the nearby ground and surface waters, even without any downward pressure from hydraulic head pushing leachate out of the unit. Second, for the same reasons, closed units and inactive landfills that continue to be saturated by groundwater will continue to present these same risks, even though no additional CCR will have been added to the unit.

Further there are several ways in which disposal below the water table can result in higher risks than EPA originally estimated in 2014. One of these is that it has the potential to alter groundwater chemistry in ways that increase either the solubility or mobility of CCR contaminants. This is due to the residual, unburnt organic matter in CCR serving as a carbon source (*i.e.,* substrate, electron donor) for bacteria in the soil. Bacteria preferentially use any dissolved oxygen (O_2) for oxidation of organic matter (*i.e.,* electron transfer from the organic matter to oxygen) because this yields the greatest energy returns for the bacteria. With a sufficient source of biodegradable organic matter, bacterial consumption of oxygen can outpace replenishment of dissolved oxygen that occurs through diffusion from the atmosphere and infiltration of precipitation. Depletion of oxygen is more likely to occur in saturated soils because the constant presence of water allows biological activity to proceed unimpeded by periods of drying, the relatively slow flow rate of groundwater does not transport dissolved oxygen from the upgradient side of the unit fast enough to outpace consumption across the footprint of the unit, and sustained saturation of the soil limits oxygen exchange with the atmosphere. In the absence of oxygen, bacteria will instead use nitrate, manganese, iron, sulfate, and other compounds for reduction of organic matter (*i.e.,* electron transfer to organic matter from other compounds). Such reducing conditions will not affect all constituents equally, serving to mobilize some and immobilize others. However, reducing conditions can mobilize arsenic, the primary source of risks identified in the 2014 Risk Assessment, in two primary ways. First, the transformation of iron, sulfur, and other minerals in the ash and soil can free arsenic that was either complexed with or sorbed onto these minerals. Second, reducing conditions can change the dominant oxidation state of arsenic (*i.e.,* how many electrons the atom has gained or lost in its present state), resulting in a more mobile form that is not retained as well on the soil surface.

Research conducted since the 2014 Risk Assessment has better documented the potential effects of disposal below the water table on leakage from CCR units. Studies published in 2022 examined, among other things, the degree to which environmental conditions can differ within the same closed impoundment, both above and below the water table.[22] [23] Specifically, arsenic concentrations measured in the water intermingled with CCR collected from beneath the water table were as high as 4,100 µg/L due to the presence of reducing conditions and a near neutral pH of 8. That concentration is substantially higher than 20 µg/L, measured from the same ash with LEAF Method 1313 at a similar pH, or 780 µg/L, which is the 90th percentile of all impoundment porewater measurements previously compiled by EPA. Altogether this indicates that the 2014 Risk Assessment, which relied on data from these two sources, may have underestimated the potential magnitude of leakage from CCR units under reducing conditions. Data collected using LEAF methods, like all standardized leaching tests, tend to reflect oxidizing conditions due to contact between the sample and the atmosphere during sample collection and laboratory analysis. It has since been recognized that further analysis of leachate data with geochemical speciation models may be warranted when field conditions diverge from those present in the laboratory setting (*e.g.,* reducing conditions).[24] Data from the Agency's empirical porewater dataset may reflect reducing conditions to some degree because the ash in these units remains saturated. Yet, there are reasons to believe that reducing conditions would not be as common or extreme in operating impoundments. Operating impoundments are open to the air, frequently have new water sluiced into them, and may be periodically dredged. These conditions introduce oxygen into the impoundment far faster and more frequently than a closed and capped impoundment. For all these reasons, it is likely that long-term disposal of CCR below the groundwater table, whether in a closed or partially dewatered impoundment, a closed or inactive landfill, or other method of management, can pose risks

[22] Wang, X., A.C. Garrabrants, Z. Chen, H.A. van der Sloot, K.G. Brown, Q. Qiu, R.C. Delapp, B. Hensel, and D.S. Kosson. 2022. ''The Influence of Redox Conditions on Aqueous-Solid Partitioning of Arsenic and Selenium in a Closed Coal Ash Impoundment.'' Journal of Hazardous Materials. 428:128255.

[23] Wang, X, H.A. van der Sloot, K.G. Brown, A.C. Garrabrants, Z. Chen, B. Hensel, and D.S. Kosson. 2022. ''Application and Uncertainty of a Geochemical Speciation Model for Predicting Oxyanion Leaching from Coal Fly Ash under Different Controlling Mechanisms.'' Journal of Hazardous Materials. 438:129518.

[24] U.S. EPA. 2019. ''Leaching Environmental Assessment Framework (LEAF) How-To Guide: Understanding the LEAF Approach and How and When to Use It.'' Office of Land and Emergency Management. Washington, DC. May.

similar to or even greater than previously modeled for operating surface impoundments.

Based on the various lines of evidence outlined above and confirmed by the damage cases discussed in the next Unit of the preamble, historical disposal practices for CCR diverge from current practices in several material ways. Each of these practices individually have the potential to result in risks even higher than those previously modeled for the currently operating universe of CCR units, and a combination of these practices could push risks even higher.

2. Damage Cases

EPA has a long history of considering damage cases in its regulatory decisions under RCRA. RCRA specifically directs EPA, when making a Regulatory Determination for CCR, to consider ''documented cases in which danger to human health and the environment from surface run-off or leachate has been proved,'' demonstrating that such information is to carry great weight in decisions of whether and how to regulate such wastes. 42 U.S.C. 6982(n)(4). See also 42 U.S.C. 6982(n)(3). In addition, damage cases are among the criteria EPA must consider under its regulations for determining whether to list a waste as a ''hazardous waste.'' See 40 CFR 261.11(a)(3)(ix). EPA also relied on damage cases to develop the specific requirements for CCR in part 257, subpart D. See, 80 FR 21452–21459.

Damage cases generally provide direct evidence of both the extent and nature of the potential risks to human health and the environment that have resulted from actual waste management practice. For example, in the 2015 CCR Rule, EPA relied on damage cases to identify actual management practices that resulted in harm above and beyond that already identified through modeling. Based on the damage cases, EPA identified several additional constituents (antimony, barium, beryllium, chromium, selenium, and lead) that were added to the Appendix IV list for groundwater monitoring. For CCRMU, EPA is relying on the damage cases to further support the results of the modeling discussed in the preceding Unit of this preamble and to better understand the characteristics of the sites and units, as well as the management practices, in order to develop appropriate requirements.

a. Data Sources Reviewed

In response to the ANPRM, EPA received comments that contained information stating that groundwater contamination was occurring at many sites from federally unregulated units such as inactive landfills, closed landfills, and fill. Additionally, EPA received comments, reports, and data from states, nongovernmental organizations, citizen groups, and other stakeholders, regarding groundwater contamination from currently unregulated CCR sources. EPA also reviewed comments received on the ANPRM. One commenter, Earthjustice et al., said:

> EPA only regulates CCR landfills that were active after October 2015, which leaves hundreds of coal ash landfills [to] escape all closure, source control, and remediation requirements. Commenters now know that these coal ash landfills are currently causing serious groundwater contamination. The analysis of the Ashtracker [25] data presented in these comments shows that the vast majority of CCR landfills threaten human health and the environment. Data indicate that distinctions based on landfill type or the date that the unit ceased operation are effectively meaningless from a risk perspective. Unless EPA addresses the threats posed by inactive landfills, the CCR Rule will continue to fall short of the RCRA protectiveness standard. Serious and ongoing harm caused by coal ash will never be resolved, until EPA applies its regulatory oversight to these toxic open dumps.

Earthjustice et al., also provided a list of 47 potential inactive landfills [26] identified in EPA Information Request Responses from Electric Utilities,[27] EPA Human and Ecological Risk Assessment of Coal Combustion Residuals (Dec. 2014),[28] and U.S. Energy Information Administration (EIA) Monthly Electric Generator Inventory (''EIA 860M'').[29]

EPA reviewed these data and found the information used to support the 2015 CCR Rule included EIA data that estimated which power plants disposed of CCR either wet (in CCR surface impoundments) or dry (in CCR landfills) to estimate the number of CCR units on-site. These 2014 estimates of CCR units were not always verified at the time, nor did the data contain actual unit names or exact numbers of units on-site, nor were the commenters data unit specific with unit names or other identifying features. However, since 2016,[30] the Agency has been reviewing the documents posted on facilities' CCR websites for compliance with CCR regulations. Specifically, EPA has reviewed groundwater monitoring reports, assessment of corrective measures reports, corrective measures progress reports, remedy selection reports, history of construction reports, closure plans and reports, and fugitive dust control plans for facilities with CCR websites from 2018, 2019, 2020, and 2021. Through the review of information posted by facilities on CCR websites and implementation of the 2015 CCR Rule, EPA has better estimates of the different types of units at regulated facilities. Some of the differences between the 2014 Risk Assessment data, 2014 Regulatory Impact Analysis (RIA), and the current known universe of regulated facilities are due to differences in reporting between cells versus units, general assumptions about the number of wet/dry units at a facility, changes in unit names over time due to different waste management practices, and inclusion of storage impoundments that were later determined to not contain CCR and therefore were not CCR surface impoundments.

Through review of groundwater monitoring and corrective action reports, EPA found many instances where the owners or operators of CCR facilities claimed that the detection of an SSI or SSL in concentrations of Appendix III or IV constituents in groundwater came from a CCRMU rather than the monitored regulated CCR unit. Whenever a facility determines that there is an SSI over background levels for one or more of the constituents in Appendix III at a monitoring well at the downgradient waste boundary, the regulations allow the facility an opportunity to complete an alternative source demonstration (ASD) showing that a source other than the unit (*i.e.,* an alternative source) was the cause of the SSI. Section 257.94(e)(2). The regulations provide a similar opportunity whenever assessment monitoring results indicate that an SSL exceeding the GWPS has been detected at a downgradient well for any of the Appendix IV constituents. 40 CFR 257.95(g)(3). If a successful ASD for an SSL is not completed within 90 days, corrective action must be initiated.

[25] Ashtracker provides public access to industry-reported data from state and company records about groundwater contamination at coal ash dumps. It can be accessed at *https://www.ashtracker.org.*

[26] EPA–HQ–OLEM–2020–0107–0073.

[27] Database Results (Excel) 04–12–12 at *https://archive.epa.gov/epawaste/nonhaz/industrial/special/fossil/web/html/index-3.html* and Summary Table for Impoundment Reports (.xls)—July 31, 2014, at *https://archive.epa.gov/epawaste/nonhaz/industrial/special/fossil/web/html/index-4.html.* Available at EPA–HQ–OLEM–2020–0107–0003.

[28] U.S. EPA. 2014. ''Human and Ecological Risk Assessment of Coal Combustion Residuals.'' RIN 2050–AE81. Office of Solid Waste and Emergency Response. Washington, DC. December. Docket ID No. EPA–HQ–RCRA–2009–0640–11993.

[29] *https://www.eia.gov/electricity/data/eia860m/.*

[30] In December 2016, the Water Infrastructure Improvements for the Nation (WIIN) Act gave EPA enforcement authority under RCRA sections 3007 and 3008 for the CCR regulations. See RCRA section 4005(d).

Specifically, EPA found in reviewing groundwater monitoring and corrective action reports that 42 ASDs or assessments of corrective measures (ACMs) concluded that a federally unregulated CCR source was responsible for the SSI or SSL. In Unit IV.B.2.b and c of this preamble are several examples (*i.e.,* damage cases) where owners or operators of CCR facilities claimed that an SSI or SSL is attributable to a CCR source rather than the federally regulated CCR unit.

In addition to reviewing the groundwater monitoring and corrective action reports, EPA also reviewed the history of construction reports, closure plans and reports, and fugitive dust control plans for facilities with CCR websites from 2018, 2019, 2020, and 2021. These documents contained either site maps, which identified currently regulated units, and in some cases, inactive or closed units at the facility, or narrative discussions of the site history, which included identification of where CCR were previously disposed or managed at the facility. Through this review, EPA found 65 references to CCR that are managed or disposed outside federally regulated CCR units; however, EPA was not able to find additional information about these units including whether groundwater monitoring has been conducted.

Given the available data about CCR facilities, the Agency reviewed the records for evidence of inactive landfills at active CCR facilities and inactive CCR facilities. EPA reviewed the available data and found clear, written documentation of about 34 inactive or closed CCR landfills at 22 CCR facilities. In addition, EPA evaluated those verified inactive or closed CCR landfills and found evidence from ASD reviews that eight landfills were identified as contaminating groundwater. Some of the landfills are adjacent to a federally regulated CCR unit and some are below federally regulated CCR units but are not considered part of the regulated unit. This is the available information that the Agency has regarding inactive CCR landfills and EPA has no information to suggest a different situation regarding inactive CCR landfills.

After reviewing all of this information, EPA identified a total of 134 areas at 82 active facilities [31] where CCR is being managed, but which remain exempt under existing federal CCR regulations. These areas include inactive CCR landfills, closed CCR landfills, closed CCR surface impoundments, and other solid waste management areas of CCR. Through further investigation, EPA found 42 federally unregulated units with documentation that the units are potentially contaminating groundwater. Of those, EPA found evidence that eight were associated with closed CCR landfills, one related to an inactive CCR landfill, 22 pertained to closed CCR surface impoundments, three involved CCR disposed below the regulated CCR unit, and eight related to CCR disposed or managed in other solid waste management areas. A subset of examples of these 42 federally unregulated units are briefly summarized below; first for facilities that attributed an SSL associated with a federally regulated landfill or impoundment to the federally unregulated unit and second where SSIs are attributed to a federally unregulated unit. Although some of these units are being regulated or addressed by states, it does not negate the need to expand the federal CCR regulations to address contamination and potential risks from CCRMU across the nation.

b. Examples of CCRMU With Identified SSLs

Under the existing CCR regulations, when a facility determines there is an SSL for one or more Appendix IV constituents and completes a successful ASD showing that a source other than the regulated unit is the cause of the SSL(s), the facility is not required to initiate corrective action for that particular constituent. Through ASD reviews, EPA identified several areas at active facilities where CCR was managed outside of a regulated unit and was identified as a source of one or more Appendix IV SSL(s). The following facilities are examples of situations in which potential CCRMU have been identified as the source of an SSL and demonstrate the need to expand the federal CCR regulations as EPA is proposing in this preamble.

James H Campbell Power Plant, West Olive, Michigan

The JH Campbell Power Plant, owned and operated by Consumers Energy Company, is located within a mile of Lake Michigan. The facility has five regulated CCR units, including three CCR surface impoundments (Pond A, Bottom Ash Ponds 1–2, and Bottom Ash Pond 3) and two CCR landfills. The ''wet ash ponds area'' is approximately 267 acres and is bounded by perimeter dikes with a system of internal dikes separating the individual ash ponds. In addition to the five regulated CCR units, there are at least seven other unregulated, unlined ''closed'' impoundments [32] that ceased placement of waste prior to October 19, 2015, do not have an engineered cap nor vegetative cap, and have a closure plan that was approved by the State. Based on the groundwater monitoring report reviews, there were SSIs over background at many wells at all units and some had an SSL for arsenic and selenium. At Pond A, which closed with waste in place in 2019, there are SSIs for boron and sulfate, and SSLs were identified for arsenic (13 µg/L [MCL of 10 µg/L]) and selenium [33] (143 µg/L [MCL of 50 µg/L]) for which an assessment of corrective measures was completed, and the selected remedy is source removal and final cover as the primary corrective action. In the 2021 Annual Groundwater Monitoring and Corrective Action Report posted in January 2022, Consumers Energy concluded there was an ASD for Pond A and said, ''Increases in Appendix III constituents (*e.g.,* boron) and direct exceedances of the selenium GWPS in JHC–MW–15011, JHC–MW–15010, JHC–MW–15009, and JHC–MW–15008R that have not yet resulted in a statistically significant exceedance suggest a detectable influence from the immediately adjacent, upgradient, closed, pre-existing CCR units on-site. The closed, preexisting units are not regulated under the RCRA CCR Rule, but remedial action is being taken under Consent Agreement WMRPD No. 115–01–2018. A [remedial action plan] for these units was submitted to [Michigan's Department of Environment, Great Lakes, and Energy] on September 30, 2021.'' During the 2021 groundwater monitoring period for Bottom Ash Ponds 1–2, which closed by removal in 2018, SSIs were identified for boron, calcium, chloride, pH, sulfate, and total dissolved solids (TDS); also, one SSL was identified for arsenic (38 µg/L [MCL of 10 µg/L]).[34] An assessment of corrective measures has been completed for the CCR unit and the primary selected remedy is source removal and final cover. Consumers Energy also said in the 2022 semiannual

[31] This information can be found in the document titled ''Potential CCR Management Units'' in the docket for this action.

[32] These ''closed'' impoundments (Pond B, Pond C, Pond D, Pond F, Pond G (G1 and G2), Pond H, and Pond K) are listed in a figure on page 12 of the 2021 Annual Groundwater Monitoring and Corrective Action Report, JH Campbell Power Plant Pond A, January 2022, Prepared for Consumer's Energy.

[33] JH Campbell Semiannual Progress Report—Selection of Remedy, Ponds 1–2 North and 1–2 South, and Pond A, July 30, 2022. Pages 3–4.

[34] Annual Groundwater Monitoring and Corrective Action Report, JH Campbell Power Plant Ponds 1–2 North and 1–2 South, January 2022, Prepared for Consumers Energy. Page 23.

progress report that the facility is reevaluating the groundwater ''monitoring system for [Bottom Ash] Ponds 1–2 to more accurately account for the influence from the closed, pre-existing units.''

New Castle Generating Station, Pennsylvania

GenOn Power Midwest LP (GenOn) operates the New Castle Generating Station located in West Pittsburg, Pennsylvania. The New Castle Generating Station has two CCR units subject to the regulations—an impoundment (North Bottom Ash Pond) and a landfill (New Castle Plant Ash Landfill). Each of these CCR units has relevance to this proposal due to other unregulated disposal units located adjacent to the regulated CCR units.

The North Bottom Ash Pond was used for the management of bottom ash until 2016 when the facility transitioned from coal to natural gas. After the transition to natural gas, GenOn initiated closure of the North Bottom Ash Pond by removing all waste from the impoundment. Closure of the impoundment was certified in 2019.[35] Groundwater monitoring associated with the impoundment while the unit was operating detected arsenic at SSL above the GWPS in all downgradient monitoring wells.[36] In accordance with the procedures in the regulations for CCR units in 40 CFR 257.94(e)(2), GenOn determined that an alternative source was responsible for these SSLs of arsenic. Specifically, the ASD found that a 120-acre unlined CCR surface impoundment located immediately adjacent to the North Bottom Ash Pond was responsible for the arsenic concentrations in the downgradient monitoring wells.[37] According to the 2019 Annual Report prepared by GenOn, there were SSLs for arsenic (0.087 mg/L [MCL of 10 µg/L]) in the downgradient monitoring wells.[38] Consequently, because the SSLs of arsenic were attributed to another source (*i.e.,* a former unlined CCR surface impoundment), GenOn concluded it was not required to remediate the arsenic contamination under the federal CCR regulations.

GenOn also determined that there were SSIs above background levels for multiple analytes at the New Castle Plant Ash Landfill (Ash Landfill), which is the other regulated CCR unit at the New Castle Generating Station. In its most recent annual groundwater monitoring report in 2022, GenOn reported SSIs for boron, calcium, fluoride, sulfate, and total dissolved solids.[39] GenOn determined that an alternative source was responsible for these analyte increases, specifically pointing to an ''underlying historic ash impoundment and other closed stages of the landfill.''[40] Prior to development of the 60-acre Ash Landfill, CCR was disposed in an impoundment from approximately 1939 to 1978.[41] After the impoundment was dewatered in 1978, dry CCR was disposed in this area in several stages of CCR placement up until the time Ash Landfill began operation. Since 2018, GenOn has attributed SSIs for boron, calcium, fluoride, sulfate, and TDS to this historic disposal of CCR.

Huntington Power Plant, Utah

The Huntington Power Plant in Huntington, Utah is owned and operated by PacifiCorp and has one regulated unit, the Huntington CCR Landfill. While conducting the required groundwater monitoring for the Huntington CCR Landfill, there were SSLs for chromium, cobalt, lithium, molybdenum, selenium, fluoride, and arsenic, so the owner and operator conducted assessment of corrective measures. There is also a former combustion waste landfill called the Old Landfill, which is located northwest of the regulated Huntington CCR Landfill. The ACM report[42] assumes the SSLs are the result of groundwater interactions with both the Huntington CCR Landfill and the Old Landfill. Both landfills have stormwater run-on from the area surrounding the landfill. This run-on is routed around the landfills via diversion ditches and run-off from the landfills itself is collected and retained in a sediment basin north of the Huntington CCR Landfill. The facility is implementing a remedy to address releases only from the regulated CCR Huntington Landfill, but the remedy selection report[43] does not appear to address releases from the Old Landfill.

J.B. Sims, Grand Haven, Michigan

The J.B. Sims Generating Station, owned and operated by Grand Haven Board of Light and Power, is located on Harbor Island, north of Grand Haven, Michigan. Harbor Island is bound to the north, east, and west by the Grand River and to the south by the South Channel, tributaries of Lake Michigan. The facility has two federally regulated CCR units (Unit 1 & 2 and Unit 3), both of which are inactive, unlined surface impoundments. Unit 1 & 2 is approximately 1.2 acres and includes areas where, prior to October 19, 2015, CCR was placed in unlined impoundments and used as fill in low-lying areas of adjacent wetlands. Unit 3 is approximately 0.5 acres and was built on top of historically placed CCR. The boundary of Unit 1 & 2 was updated in an agreement with EPA and the State in January 2021,[44] to include an area that received CCR prior to 1978. Therefore, the groundwater monitoring network and closure plan are currently being updated to reflect the new boundary and better address contamination from historical CCR across the units.[45] Additionally, in March 2022, the State issued an enforcement notice[46] to J.B. Sims citing inadequate groundwater monitoring and failure to address all areas where CCR were managed (*e.g.,* stored, placed) prior to disposal during the unit's operation. As such, the facility is considering expanding Unit 3's groundwater monitoring network. The units are often partially flooded, and groundwater elevations and flow direction are influenced by precipitation and water levels in the Grand River and the South Channel.

Based on groundwater monitoring report reviews, both units have had SSIs and SSLs since groundwater monitoring was initiated in 2017. During 2021, both Unit 1 & 2 and Unit 3 had SSIs for all Appendix III constituents and SSLs for arsenic (98 µg/L [MCL is 10 µg/L]), chromium (270 µg/l [MCL is 100 µg/L]), cobalt (22 µg/l [GWPS is 6 µg/L], fluoride (13 mg/L [MCL is 4 mg/L]), and

[35] CCR Compliance, Closure Certification Report, Closure by Removal, New Castle North Bottom Ash Pond. June 2019.

[36] *Id.* At 5.

[37] *Id.*

[38] CCR Compliance, Groundwater Monitoring and Corrective Action Annual Report, New Castle North Ash Pond and Ash Landfill. January 2020.

[39] CCR Compliance, Groundwater Monitoring and Corrective Action Annual Report, New Castle Ash Landfill. December 2022.

[40] *Id.* At 3.

[41] New Castle Plant Ash Landfill—Annual CCR Unit Inspection Report. January 16, 2018.

[42] Corrective Measures Assessment CCR Landfill—Huntington Power Plant Huntington, Utah. May 2019.

[43] Remedy Selection Report CCR Landfill—Huntington Power Plant, Huntington, Utah. August 2020.

[44] The meeting between Grand Haven Board of Light and Power, the state, and EPA during which the new boundaries for Unit 1 & 2 were agreed to is discussed on page 3 (PDF page 10) of the 2021 Annual Groundwater Monitoring & Corrective Action Report by Golder Associates. January 28, 2022.

[45] Letter to Grand Haven Board of Light and Power-Update To The October 14, 2019 J.B. Sims Generating Station Inactive Units ½ Impoundment And Unit 3 Closure Plan—Interim Conditions For Closure. October 22, 2021.

[46] The State of Michigan, Department of Environment, Great Lakes, and Energy (EGLE) issued an enforcement notice via email March 22, 2022, to Grand Haven Board of Light and Power, J.B. Sims.

lithium (2800 µg/L [site-specific GWPS is 59 µg/L]).[47] In December 2020, J.B. Sims submitted an ASD for Unit 3's 2019 SSLs for chromium, cobalt, fluoride, lead, and lithium, pointing to the historic fill across the island as the source of the SSLs.[48] [49] Furthermore, the Fourth Quarterly 2021 Monitoring Report suggested the continued SSIs and SSLs at Unit 3 were due to historical CCR fill beneath the unit, historical fill outside of Unit 1 & 2, and waste historically placed across the site.[50] However, until the groundwater monitoring networks are finalized, the extent of groundwater contamination and the source of all contamination cannot be determined. The assessment of corrective measures for both units began in February 2019 and is ongoing, pending finalization of the groundwater monitoring networks. Based on groundwater monitoring reports, EPA has found that due to the fluctuations in groundwater elevations in response to precipitation and nearby surface water levels, portions of the facility, including Unit 1 & 2, can be inundated or partially in contact with groundwater.

c. Examples of CCRMU With Identified SSIs

Under the existing CCR regulations, when a facility determines there is an SSI for one or more Appendix III constituents and completes a successful ASD showing that a source other than the regulated unit is the cause of the SSI(s), the facility is not required to initiate assessment monitoring for that particular constituent. 40 CFR 257.94(e). Through ASD reviews, EPA identified several areas at active facilities where CCR was managed outside of a regulated unit and was identified as a source of one or more Appendix III SSI(s). As such, any groundwater contamination from these potential CCRMU have not been investigated under the existing federal CCR regulations. The following facilities are examples of situations in which potential CCRMU have been identified as the source of an SSI and demonstrate the need to expand the federal CCR regulations as EPA is proposing in this preamble.

Reid Gardner Generating Station, Moapa Valley, Nevada

Reid Gardner Generating Station, owned and operated by NV Energy, is located adjacent to the Muddy River and the Moapa Band of Paiutes reservation, approximately 45 miles northeast of Las Vegas. Reid Gardner has seven regulated CCR units: four unlined inactive surface impoundments (Pond 4B–1, Pond 4B–2, Pond 4B–3, and Pond E–1), two active unlined surface impoundments (Pond M–5 and Pond M–7), and one partially lined landfill (Mesa Landfill). The inactive surface impoundments covered 47 acres and were closed by removal in 2017.[51] The inactive surface impoundments were constructed in 2003 (Pond E–1) and 2006 (Pond 4B–1, Pond 4B–2, and Pond 4B–3) to replace four of the eleven historical unlined evaporation ponds located at the facility that made up the evaporation pond complex (Pond 4A, Pond 4B–1, Pond 4B–2, Pond 4B–3, Pond 4C–1, Pond 4C–2, Pond D, Pond E–1, Pond E–2, Pond F, and Pond G).[52] The evaporation pond complex was built within the Muddy River floodplain and used from approximately 1974 until approximately 2002 to evaporate CCR and other process wastewaters from the facility. The two active surface impoundments (Ponds M–5 and M–7) were constructed in 2010 approximately 0.75 miles south of the historical evaporation ponds and cover 28 acres. Mesa Landfill was constructed and operational prior to the 2015 CCR Rule and has a surface area of roughly 252 acres.

Based on groundwater monitoring report reviews, the inactive surface impoundments had no Appendix III SSIs above their established background concentrations during the detection monitoring event in 2019.[53] [54] [55] [56] [57] [58] However, the inactive surface impoundments did have Appendix IV constituent concentrations above the standard GWPS, including arsenic (2.52 mg/L [MCL is 0.01 mg/L]), cadmium (0.0072 mg/L [MCL is 0.005 mg/L]), cobalt (242 µg/L [standard GWPS is 6 µg/L]), fluoride (35.4 mg/L [MCL is 4.0 mg/L]), lithium (27,300 µg/L [standard GWPS is 40 µg/L]), molybdenum (6,390 µg/L [standard GWPS is 100 µg/L]), selenium (0.204 mg/L [MCL is 0.05 mg/L]), thallium (0.026 mg/L [MCL is 0.002 mg/L]), and radium 226 & 228 combined (8.02 pCi/L [MCL is 5 pCi/L]). Ponds M–5 and M–7 and the Mesa Landfill have had SSIs for fluoride every year of detection monitoring for which ASDs have been performed pointing to natural variation in groundwater quality.[59] [60] [61] [62] [63] [64] ASDs were also performed for SSIs at Mesa Landfill for pH (2019 and 2021) and turbidity (2020 and 2021) that attributed the SSIs to natural variation in groundwater quality. Therefore, since ASDs have been performed for all SSIs and the

[47] SSL concentrations can be found in Appendix B (PDF page 512) of the 2021 Groundwater Monitoring & Corrective Action Report prepared by Golder Associates on behalf of Grand Haven.

[48] 2020 Alternate Source Demonstration J.B. Sims Generating Station—Unit 3 Impoundments Submitted to: Grand Haven Board of Light and Power Submitted by Golder Associates Inc. December 28, 2020.

[49] Technical Memorandum to Michigan Department of Environment, Great Lakes, and Energy-Unit 3 Impoundments Alternate Source Demonstration Response Grand Haven Board Of Light And Power—JB Sims Power Generating Station. February 12, 2020.

[50] Memorandum to Michigan Department of Environment, Great Lakes, and Energy- Fourth Quarter 2021 Monitoring Report, Former JB Sims Generating Station, Unit 3 A&B Impoundments—Response to Comments. March 8, 2022.

[51] Reid Gardner Generating Station Inactive Coal Combustion Residual Surface Impoundments Ponds 4B–1, 4B–2, 4B–3, and E–1 Closure Certification, April 2019.

[52] Construction History, Pond E1, Reid Gardner Generating Station. April 11, 2018.

[53] Reid Gardner Generating Station Inactive CCR Surface Impoundment E–1. Coal Combustion Residual 209 Annual Groundwater Monitoring and Corrective Action Report. July 31, 2019.

[54] Reid Gardner Generating Station Inactive CCR Surface Impoundments 4B–1, 4B–2, and 4B–3. Coal Combustion Residual 2019 Annual Groundwater Monitoring and Corrective Action Report. Revision 1. May 14, 2020.

[55] Reid Gardner Generating Station Mesa Impoundments M5 and M7 Coal Combustion Residual 2019 Annual Groundwater Monitoring and Corrective Action Report and Alternate Source Demonstration. January 31, 2020.

[56] Reid Gardner Generating Station Mesa Impoundments M5 and M7 Coal Combustion Residual 2020 Annual Groundwater Monitoring and Corrective Action Report and Alternate Source Demonstration. January 29, 2021.

[57] Reid Gardner Generating Station Mesa Impoundments M5 and M7 Coal Combustion Residual 2021 Annual Groundwater Monitoring and Corrective Action Report and Alternate Source Demonstration. January 28, 2022.

[58] Alternate Source Demonstration and Addendum to the Coal Combustion Residual 2017 Annual Groundwater Monitoring and Corrective Action Report Reid Gardner Generating Station Mesa CCR Surface Impoundments (Ponds M5 and M7). Prepared for NV Energy. April 13, 2018.

[59] Reid Gardner Generating Station Mesa Landfill Coal Combustion Residual 2018 Annual Groundwater Monitoring and Corrective Action Report and Alternate Source Demonstration. January 31, 2019.

[60] Reid Gardner Generating Station Mesa Impoundments M5 and M7 Coal Combustion Residual 2018 Annual Groundwater Monitoring and Corrective Action Report and Alternate Source Demonstration. January 31, 2019.

[61] Reid Gardner Generating Station Mesa Landfill Coal Combustion Residual 2019 Annual Groundwater Monitoring and Corrective Action Report and Alternate Source Demonstration. January 31, 2020.

[62] Reid Gardner Generating Station Mesa Landfill Coal Combustion Residual 2020 Annual Groundwater Monitoring and Corrective Action Report and Alternate Source Demonstration. January 31, 2021.

[63] Reid Gardner Generating Station Mesa Landfill Coal Combustion Residual 2021 Annual Groundwater Monitoring and Corrective Action Report and Alternate Source Demonstration. January 28, 2022.

[64] Alternate Source Demonstration and Addendum to the Coal Combustion Residual 2017 Annual Groundwater Monitoring and Corrective Action Report Reid Gardner Generating Station Mesa Landfill. Prepared for NV Energy. April 13, 2018.

active units, Reid Gardner has not moved from detection monitoring to assessment monitoring. The facility also claims the historical, co-located evaporation ponds are the source of groundwater contamination in the area and not the CCR-regulated units. Specifically, in the closure certification for the inactive surface impoundments, the facility points to documentation as far back as the 1980s that describe seepage from Pond D, the historical Pond E–1 and E–2, Pond F, and Pond G and leakage at an estimated rate of 50 acre-feet/year from Ponds 4C–1 and 4C–2 and historical Ponds 4B–1, 4B–2, and 4B–3.

Cooper Station, Somerset, Kentucky

Cooper Station is owned and operated by East Kentucky Power Cooperative (EKPC) and is located in Somerset, Kentucky. There is one CCR landfill on-site, and the disposal area covers 96.32 acres in a total State-permitted area of 315.25 acres. Before construction of the landfill, CCR was managed in an unlined surface impoundment below the current landfill location. The facility conducted an ASD in 2018 for boron, calcium, sulfate, and TDS.[65] Previous analyses indicate that karst regions under the historic impoundment may have facilitated the release of some contamination. ASD results indicate the regulated CCR landfill is not the source of the release since it is lined but did not definitively state if the facility determined the unregulated unlined surface impoundment beneath the landfill as the alternative source. As such, the facility determined that the current CCR landfill remains in detection monitoring.

Seminole Electric Cooperative, Florida

Seminole Electric Cooperative (Seminole) operates the Seminole Generating Station located in Palatka, Florida. For CCR that is not beneficially used, CCR is disposed at the facility in a landfill (Increment One Landfill), which is subject to the CCR regulations. This CCR landfill is a double-lined landfill with a leachate collection system and, because part of the Increment One Landfill overlaps with the side-slope of a former, federally unregulated landfill, the liner system also includes a high-density polyethylene geomembrane where the two units interface.[66] Seminole determined there were SSIs above background levels for multiple analytes in one or more monitoring wells at the downgradient waste boundary in 2018, including SSIs for boron, calcium, chloride, sulfate, and TDS. Seminole determined that one or more alternative sources were responsible for these analyte increases. These sources include former test cells (*i.e.,* areas where CCR was placed in the 1980s for purposes of construction evaluations that are now located beneath the Increment One Landfill), a former CCR landfill adjacent to the Increment One Landfill, and several process water ponds next to the Increment One Landfill.[67] Since 2018, Seminole has attributed SSIs for these analytes to these alternative sources and therefore, has not moved from detection monitoring to assessment monitoring.

R.M. Schahfer Generating Station, Indiana

The R.M. Schahfer Generating Station, owned and operated by Northern Indiana Public Service Company, LLC (NIPSCO), has several CCR units subject to the regulations, including several CCR impoundments and a CCR landfill consisting of multiple cells or phases of operation (''Landfill''). The Landfill is of particular relevance to this proposal because includes three cells subject to federal CCR regulations (Phases V through VII) and four landfill cells that are not (Phases I through IV). In the course of conducting the required groundwater monitoring for the regulated cells of the Landfill, in January 2018, NIPSCO determined that there were SSIs above background levels for all seven analytes in Appendix III at one or more monitoring wells at the downgradient waste boundary of the regulated CCR units. This included SSIs for boron, calcium, chloride, fluoride, pH, sulfate, and TDS.[68] Through procedures laid out in the regulations for regulated CCR units in 40 CFR 257.94(e)(2), NIPSCO determined that these groundwater SSI impacts were not due to a release from the regulated CCR landfill cells, but instead were attributable to another source. Specifically, NIPSCO has concluded that ''a release from the non-regulated, unlined portions of the landfill, Phases 1 and II, is the source of the identified SSIs.'' [69] Subsequent groundwater monitoring of the regulated Landfill cells since 2018 continues to identify SSIs and NIPSCO continues to attribute those impacts to releases from the unregulated Phase I and II cells.[70]

Landfill Phase I is a 20-acre unlined cell that received CCR (flue gas desulfurization materials and fly ash) between 1984 and 1991 and subsequently closed with a final cover system in 1999. Phase II of the Landfill is an unlined 42-acre cell where flue gas desulfurization materials and fly ash were disposed between 1991 to 1998. The Phase II cell was closed with a final cover system in 1998. CCR landfills such as the Phase I and II cells are not regulated by the existing regulations because the cells have not received CCR on or after October 19, 2015. As a result, NIPSCO has not been required under the existing federal CCR regulations to investigate further and remediate as necessary groundwater impacts from the unlined Phase I and II cells.

Waukegan Generating Station, Illinois

An example of CCR used as fill on-site is Midwest Generation's Waukegan Generating Station in Waukegan, Illinois. There are two CCR surface impoundments named the East Ash Pond and West Ash Pond, which were used interchangeably during the facility's operational history and have a multi-unit groundwater monitoring system. The East Ash Pond has a surface area of 9.8 acres with a storage capacity of 184,000 cubic yards. The West Ash Pond has a surface area of 10 acres with a storage capacity of 223,000 cubic yards. According to the 2018 Annual Groundwater Monitoring and Corrective Action Report, there was detection of SSIs over background for Appendix III constituents, including pH and sulfate.[71] An ASD was completed that claimed other potential historic sources were the cause of the SSIs. In the 2019 Annual Groundwater Monitoring and Corrective Action Report, an ASD for Appendix III constituents identified calcium and TDS with the same claim that other potential historic sources were the cause of the SSIs.[72] The ASDs discuss that the downgradient

[65] Annual CCR Groundwater Monitoring & Corrective Action Report, Cooper Landfill, January 31, 2019. The ASD is discussed in Appendix C of the report.

[66] Seminole Generating Station Increment One Landfill Annual Groundwater Monitoring and Corrective Action Report. January 31, 2019. Begins on PDF page 20 of the 2018 Annual Groundwater Monitoring and Corrective Action Report—Landfill Phase V and Phase VI. April 13, 2018.

[67] *Id.* at 20.

[68] 2018 Annual Groundwater Monitoring and Corrective Action Report—Landfill Phase V and Phase VI, NIPSCO R.M. Schahfer Generating Station. January 31, 2019.

[69] Northern Indiana Public Service Company, R.M. Schahfer Generating Station, Wheatfield, Indiana, Schahfer Landfill Phase V and Phase VI, Alternative Source Demonstration. April 13, 2018.

[70] 2021 Annual Groundwater Monitoring and Corrective Action Report, Landfill Phase V, Phase VI, and Phase VII, NIPSCO LLC R.M. Schahfer Generating Station. January 31, 2022.

[71] 2018 Waukegan Generating Station Annual GWMCA Report, Appendix B, PDF pg. 100. January 2019.

[72] 2019 Waukegan Generating Station Annual GWMCA Report, Appendix B, PDF pg. 100. January 2020.

monitoring wells were installed within the berms for the surface impoundments that consisted of a ''mixture of fill and beneficially reused coal combustion by-product''.[73] [74] The 2018 ASD also notes that a upgradient well, MW–05 which is not a part of the CCR groundwater monitoring network, has substantially higher sulfate and boron concentrations than the downgradient wells suggesting an upgradient source. Furthermore, the 2019 ASD mentions that the fluctuating TDS concentrations at downgradient well MW–16 are correlated to fluctuations in TDS at MW–05 further suggesting an upgradient source. While these ASDs suggest that the sources may be CCR within the berms and a upgradient source they do not analyze these potential sources to verify the claims. EPA did verify that the boring logs for groundwater monitoring wells MW–01 through MW–05 and MW–16 show they were installed within 11 to 20 feet of CCR in the berms surrounding the surface impoundments.[75] In addition, construction drawings in the history of construction show ''existing fill'' or CCR was used in the construction of the surface impoundment access ramps and underneath the surface impoundments liners.[76] The facility continued to use the ASDs for SSIs in 2020 and 2021, therefore, the surface impoundments remain in detection monitoring.

White Bluff Steam Electric Station, Arkansas

The White Bluff Steam Electric Station in Redfield, Arkansas is owned or operated by Entergy and has three CCR units: two CCR surface impoundments (A Recycle Pond/South Pond and B Recycle Pond/North Pond); and one CCR landfill (Existing CCR Landfill Cells 1–4). CCR previously was disposed in a 20-acre ravine,[77] which was closed and covered in accordance with the original facility State-issued permit. The active landfill was then built on top of, and adjacent to, the unlined, closed landfill. In 2018, the facility conducted intrawell monitoring of the groundwater at the facility and SSIs for pH, calcium, TDS, and boron were detected. An ASD was completed and determined that the sources of the SSIs were: (1) Releases from portions of the Coal Ash Disposal Landfill (CADL) closed before the effective date of the CCR Rule (October 19, 2015); (2) Surface water that has come into contact with on-site CCR and has migrated into the subsurface; and/or (3) Natural variation in groundwater quality. Therefore, the landfill remains in detection monitoring.

3. Summary of CCR Management Unit Proposal

After considering all of the above data and information, EPA is proposing to establish a new category of regulated units that would be subject to a set of requirements tailored to the characteristics of such units and the risks that they present. EPA is proposing that this new category of units, called ''CCR management units'' or CCRMU, would consist of CCR surface impoundments and landfills that have closed prior to the effective date of the 2015 CCR Rule, inactive CCR landfills, and any area at a facility where solid waste management involving the past or present placement or receipt of CCR directly on the land has or is occurring.

Further, EPA is proposing to require facilities to conduct a facility evaluation to identify and delineate any CCRMU present at the facility and document the findings in a report. In addition, EPA is proposing to require the facility to ensure that all identified CCRMU comply with the existing requirements in part 257 for groundwater monitoring, corrective action, closure, and post-closure care requirements. These requirements are intended to address the risks posed by any existing releases of CCR or CCR constituents to the groundwater, regardless of when the CCR was placed in the units and prevent future releases. Consistent with the existing CCR regulations, owners and operators of CCRMU would also be required to record compliance with these requirements in the facility's operating record, notify the state of certain actions taken and decisions made, and maintain a publicly accessible website on the internet of compliance information. The other existing requirements in part 257 are not necessary for CCRMU. For example, since CCRMU do not contain sufficient liquids to create a hydraulic head or to otherwise cause the conditions that might lead to a structural failure, the structural stability requirements are unnecessary. Furthermore, EPA is proposing that CCRMU, like legacy CCR surface impoundments, must close, and for the same reasons that EPA described with respect to legacy CCR surface impoundments, the location restrictions and liner design criteria are also unnecessary. This proposal would apply to all CCRMU at active CCR facilities and at inactive facilities with one or more legacy CCR surface impoundments, regardless of how or when the CCR was placed in the CCRMU. All of these proposals are discussed in more detail in this Unit of the preamble.

Note that all deadlines herein are framed by reference to the effective date of the rule and have been proposed based on an effective date that is 6 months from publication of the final rule. The Agency has included a document in the docket for this rule that summarizes the proposed compliance deadlines.[78] EPA requests comment on the compliance deadlines and the feasibility to meet the proposed compliance timeframes for CCRMU.

TABLE 2—PROPOSED COMPLIANCE TIMEFRAMES FOR CCRMU IN MONTHS AFTER EFFECTIVE DATE OF THE FINAL RULE

Proposed compliance timeframes for CCRMU			
40 CFR Part 257, Subpart D requirement	Description of requirement to be completed	Proposed deadline (months after effective date of the final rule)	Notes
Internet Posting (§ 257.107)	Establish CCR website	0	Subsequent requirements: Facility Evaluation Report; all recordkeeping.
Facility Evaluation (§ 257.75)	Initiate the facility evaluation.	0	Subsequent requirements: Facility Evaluation Report.
Facility Evaluation Report (§ 257.75).	Complete the Facility Evaluation Report.	3	Prerequisite requirements: Facility Evaluation, Establish CCR website.

[73] 2020 Waukegan Generating Station Annual GWMCA Report. January 2021.

[74] 2021 Waukegan Generating Station Annual GWMCA Report. January 2022.

[75] Waukegan boring well logs.

[76] October 2016, Waukegan Generating Station History of Construction.

[77] Entergy Arkansas, LLC White Bluff Steam Electric Station Landfill Cells 1–4 2021 Annual Groundwater Monitoring and Corrective Action Report. January 31, 2022.

[78] Docket item is titled Proposed Compliance Deadlines for Legacy CCR Surface Impoundments and CCR Management Units.

TABLE 2—PROPOSED COMPLIANCE TIMEFRAMES FOR CCRMU IN MONTHS AFTER EFFECTIVE DATE OF THE FINAL RULE—Continued

Proposed compliance timeframes for CCRMU			
40 CFR Part 257, Subpart D requirement	Description of requirement to be completed	Proposed deadline (months after effective date of the final rule)	Notes
GWMCA (§ 257.91)	Install the groundwater monitoring system.	6	Prerequisite requirements: Facility Evaluation Report. Subsequent requirements: Groundwater sampling and analysis program; Initiate detection and assessment monitoring; Annual GWMCA report.
GWMCA (§ 257.93)	Develop the groundwater sampling and analysis program.	6	Prerequisite requirements: Install groundwater monitoring system. Subsequent requirements: Initiate detection monitoring and assessment monitoring; Annual GWMCA report.
GWMCA (§ 257.90(e))	Annual GWMCA report	January 31 of the year following GWM system install.	Prerequisite requirements: Install groundwater monitoring system; Groundwater sampling and analysis plan.
Closure (§ 257.102)	Prepare written closure plan.	12	Subsequent requirements: Initiate closure.
Post-Closure Care (§ 257.104).	Prepare written post-closure care plan.	12	Prerequisite requirements: Written closure plan.
Closure and Post-Closure Care (§ 257.101).	Initiate closure	12	Prerequisite requirements: Written closure plan.
GWMCA (§§ 257.90–257.95)	Initiate the detection monitoring and assessment monitoring. Begin evaluating the groundwater monitoring data for SSI over background levels and SSL over GWPS.	24	Prerequisite requirements: Install groundwater monitoring system; Groundwater sampling and analysis plan.

4. Applicability and Definitions Related to CCR Management Units

EPA is proposing to amend § 257.50 by adding a new paragraph (j) to specify that subpart D applies to CCRMU. EPA is also proposing to add a new definition and revise 11 existing definitions in § 257.53 to implement the proposed criteria for CCRMU.

a. Definition of CCR Management Unit

EPA is proposing to define a *CCR management unit* to capture the solid waste management practices that have been demonstrated in the risk assessment and the damage cases to have the potential to contaminate groundwater. EPA is proposing to define a CCRMU as any area of land on which any non-containerized accumulations of CCR are received, placed, or otherwise managed, that is not a CCR unit. This definition is based on the current definitions of a CCR pile—which is currently regulated as a CCR landfill—and of a CCR surface impoundment, which both rely on the concept of ''accumulations of CCR.'' See, 40 CFR 257.53.

EPA is proposing that CCRMU would include historical solid waste management units such as CCR landfills and surface impoundments that closed under then-existing law prior to the effective date of the 2015 CCR Rule, as well as inactive CCR landfills (including abandoned piles). It would also include any other areas where the solid waste management of CCR on the ground has occurred, such as structural fill sites, CCR placed below currently regulated CCR units, evaporation ponds, or secondary or tertiary finishing ponds that have not been properly cleaned up, and haul roads made of CCR if the use does not meet the definition of beneficial use. All of these examples involve the direct placement of CCR on the land, in sufficient quantities to raise concern about releases of hazardous constituents, and—in most, if not all cases—with no measures in place to effectively limit the contact between the CCR and liquids, and subsequent generation and release of any leachate.

EPA recognizes that this is a broad definition, but the Agency does not intend that the placement of any amount of CCR would necessarily constitute a CCRMU. Accordingly, EPA is proposing that the following would not be considered CCRMU: consistent with the current regulations, closed or inactive process water ponds, cooling water ponds, wastewater treatment ponds, and storm water holding ponds or aeration ponds. These units are not designed to hold an accumulation of CCR, and in fact, do not generally contain a significant amount of CCR. See, 80 FR 21357. In addition, consistent with the existing regulations, neither an area or unit at which exclusively non-CCR waste is managed, nor any containerized CCR, such as a silo, would be considered CCRMU. See, Id. at 21356. Neither of these units present conditions that give rise to the risks modeled in EPA's assessment or identified in the damage cases.

For similar reasons, the Agency is proposing that any CCR used in roadbed and associated embankments would not be considered CCRMU. As EPA explained in the 2015 rule the methods of application are sufficiently different from CCR landfills that EPA cannot extrapolate from the available risk information to determine whether these activities present similar risks. Roadways are subject to engineering specifications that generally specify CCR to be placed in a thin layer (*e.g.,* six to 12 inches) under a road. The placement under the surface of the road limits the degree to which rainwater can influence the leaching of the CCR. There are also significant differences between the manner in which roadways and landfills can potentially impact groundwater. These include the nature of mixing in the media, the leaching patterns, and how input infiltration rates are generated. First, CCR landfills are typically a homogenously mixed system, and as a result, there are no spatial variations of the chemical and physical properties of the media (for

example, bulk density, hydraulic conductivity and contaminant concentration). By contrast, roadways are generally constructed of several layers with different material properties (heterogeneity). This difference affects the hydraulic conductivity of a mass of CCR in a landfill, as compared to CCR placed in an embankment. Any potential leaching will tend to spread over the length of the embankment, as opposed to the leaching in a downward motion that would occur in a homogenously filled landfill. Finally, EPA is concerned that groundwater monitoring of a road may not be practicable. However, even though EPA considers that the available information does not demonstrate that use in roadbed present sufficient risk to warrant the suite of requirements applicable to CCRMU, that calculus changes in the event the CCR in roadbed is contaminating groundwater. Accordingly, EPA is proposing that if a facility subsequently determines that the CCR in onsite roadbed is contributing to contamination to the aquifer, the facility would be required to address the contamination. For example, if during an on-going corrective action, a facility identifies the roadbed as an additional source of contamination, it would be required to address that contamination as part of the ongoing remediation of the aquifer. In addition, the measures EPA is proposing to require facilities to take would not be expected to identify truly de minimis quantities of CCR. As discussed in greater detail in the next section, EPA is proposing that facilities would only be required to identify accumulations if there are records to confirm the existence of CCRMU or visual evidence of CCR placement on the ground.

As a complement to this definition, EPA is proposing to define the term *inactive CCR landfill* to mean an area of land or an excavation that contains CCR but that no longer receives CCR on or after the effective date of this final rule and that is not a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground or surface coal mine or a cave. For purposes of this subpart, this term also includes sand and gravel pits that received CCR, and abandoned CCR piles.

b. Revision to Definition of CCR Unit

EPA is proposing to modify the definition of *CCR unit* by stating that *CCR management units* are not covered by the definition of a *CCR unit.* See proposed regulatory text at § 257.53. Under the existing regulations, CCR units are defined as CCR landfills and CCR surface impoundments, as well as any lateral expansion of a CCR landfill or CCR surface impoundment. In addition, the term *CCR unit* already covers inactive CCR surface impoundments at active facilities because these units are CCR surface impoundments. Similarly, because a *legacy CCR surface impoundment* is a CCR surface impoundment, these units are a *CCR unit* under the regulations.

As currently structured, many regulations specify that they apply collectively to the owners and operators of ''*CCR units,*'' rather than listing out each individual type of unit. As discussed elsewhere in this preamble, EPA is proposing to extend only a subset of the existing requirements in part 257, subpart D to CCRMU, consisting of requirements for groundwater monitoring, corrective action, closure, post-closure care, and reporting and recordkeeping. However, EPA is not proposing to apply the part 257 location restrictions, liner design criteria, structural integrity criteria for impoundments, and operating criteria to CCRMU. In order to implement this approach with the fewest revisions to the existing regulations, EPA is proposing to exclude CCRMU from the definition of *CCR unit* and propose specific modifications to those provisions that EPA intends would apply to CCRMU. To state another way, CCRMU would not be subject to provisions only applicable to *CCR units.*

c. Revisions to the Definitions of Owner and Operator

EPA is proposing revisions to the existing definitions of *Owner* and *Operator.* The existing definition of *Owner* is the ''person(s) who owns a CCR unit or part of a CCR unit.'' First, EPA is proposing to revise the definition to incorporate the concept of CCRMU into the existing definition because CCRMU are excluded from the definition of a CCR unit as discussed in the preceding Unit of the preamble. This would be accomplished by adding ''or CCR management unit'' to the existing definition. See proposed regulatory text at § 257.53. Second, the Agency is proposing to revise the definition of *Owner* to include the owner(s) of the entire facility, which would be achieved by adding ''or a facility, whether in whole or in part'' to the definition. EPA is not proposing to revise the definition of a ''facility,'' which under the existing regulations means ''all contiguous land, and structures, other appurtenances, and improvements on land, used for treating, storing, disposing, or otherwise conducting solid waste management of CCR. A facility may consist of several treatment, storage, or disposal operational units (*e.g.,* one or more landfills, surface impoundments, or combinations of them).'' 40 CFR 257.53.

EPA is proposing this revision in part to account for the more complicated ownership arrangements that exist at some utilities. EPA has found that there may be multiple owners at the same facility; for example, one entity may hold title to a single impoundment, while another entity may own the remaining disposal units at the site. Moreover, ownership can change over time, as individual units or portions of the facility are parceled off. This proposal would also more accurately reflect the nature of the obligations EPA is proposing to establish for CCRMU. For example, as discussed below, EPA is proposing to require an investigation of the entire disposal facility to identify CCRMU. At many sites, this would involve areas other than those encompassed by the definition of a CCR unit, extending to all areas where disposal or other solid waste management may be occurring. Moreover, relying exclusively on the ''owner'' of the CCRMU may be ambiguous in this context, as at some sites the owner may not yet be aware that a CCRMU is present (*e.g.,* because it results from the historic placement or accumulation of CCR). EPA recognizes that this proposal would apply to currently regulated facilities, but it is not clear that this revision would actually amend the entities that currently are liable. EPA expects that most (if not all) utilities currently operate as though the regulation already required the owner operator of the facility to take actions; for example, under the existing regulations owners and operators are required to conduct corrective action even where the plume has migrated beyond the footprint of the regulated unit.

For similar reasons, EPA is proposing to revise the definition of *Operator* to incorporate the concept of CCRMU into the existing definition by adding ''or CCR management unit'' to the existing definition. See proposed regulatory text at § 257.53. In addition, the Agency is proposing revisions to account for the unique characteristics of a CCRMU. In cases where the CCRMU is closed (*i.e.,* not receiving waste or otherwise in operation) or is a historic placement or accumulation of CCR, there will not be an entity that neatly fits the normal concept of an ''operator,'' because there would be no current or ongoing oversight or activity with respect to the continued use of the unit. To avoid any ambiguity, EPA is proposing to revise

the definition of ''operator'' to clarify that the term *Operator* includes those person(s) or parties responsible for disposal or otherwise actively engaged in solid waste management of CCR. It also includes those responsible for directing or overseeing groundwater monitoring, closure, or post-closure activities at a CCR unit or CCRMU.

Because multiple entities may potentially be liable, (owners and operators) EPA is providing the following guidance. Consistent with EPA's typical practice, unless otherwise provided in the regulations, as long as one responsible entity (an owner or operator) has complied with the requirements, EPA will consider the obligation satisfied as to all potentially liable parties and will initially rely on owners and operators to determine among themselves how best to ensure compliance with the requirements.

d. Conforming Revisions to Other Existing Definitions

EPA is proposing revisions to eight definitions in § 257.53 to make reference to CCRMU. These definitions currently refer only to CCR units and the proposed changes would add the words ''or CCR management unit'' to the definitions so as to incorporate the concept of CCRMU into the existing definition. The eight definitions for which EPA is proposing this revision are: Active life or in operation, Active portion, Closed, CCR landfill or landfill, Qualified person, Qualified professional engineer, State Director, and Waste boundary. EPA is not proposing to otherwise revise or reopen the substance of the existing definitions as they apply to CCR units. Accordingly, the Agency will not respond to any comments on these definitions as they apply to CCR units.

5. Facility Evaluation for Identifying CCR Management Units

EPA is proposing that owners and operators of active or inactive facilities with one or more CCR unit(s) will need to conduct a facility evaluation. The purpose of the facility evaluation is to confirm whether any CCRMU exist on-site, and, if so, to delineate the lateral and vertical extent of the unit(s). In developing this proposal, EPA relied heavily on the RCRA subtitle C Facility Assessment process for identifying solid waste management units at a hazardous waste facility. In addition, EPA accounted for certain existing requirements in the CCR regulations; for example, under the 2015 CCR Rule, facilities were required to compile a history of construction for their existing impoundments. 40 CFR 257.73(c)(1). Facilities were generally able to obtain all of the information specified in § 257.73(c)(1)(i) through (ix), even for units constructed decades ago. EPA expects that facilities will similarly be able to obtain the information that EPA is proposing would be required in the Facility Evaluation Report (discussed in Unit IV.B.5.b of this preamble).

EPA is proposing a two-step process for a facility evaluation. The first step would consist of a thorough review of available records in combination with a physical facility inspection and any necessary field work, such as soil sampling, to fill any data gaps from the information obtained from the review of available records. See proposed regulatory text at § 257.75(b). The second step of the facility evaluation would be to generate a Facility Evaluation Report to document the findings of the facility evaluation. See proposed regulatory text at § 257.75(c).

a. Facility Evaluation for CCR Management Units

EPA is proposing that during the facility evaluation the owner or operator of a CCR unit at an active facility or inactive facility would need to identify and delineate the extent, laterally and vertically, of any CCRMU at the facility. EPA is proposing a two-step process by which the facility would make those determinations: the first would be conducting a facility evaluation and the second would be the drafting of a Facility Evaluation Report. EPA is proposing that the deadline to initiate the facility evaluation would be no later than the effective date of the final rule in § 257.75(b).

A facility evaluation would begin with a review of all existing records and documents readily and reasonably available to or attainable by the facility, that contain information regarding any past and present CCR management that resulted in the accumulation of CCR on the ground. Consistent with the proposed definition of a CCRMU, in this context EPA considers the terms ''placement'' and ''receipt'' to include situations in which spilled or released CCR has been left on the ground. During this first step, the facility would be required to gather and review information to identify potential locations of CCR placement, and to determine preliminary boundaries and depths of any CCRMU. EPA is also proposing that a facility evaluation would include a physical inspection of the facility. Where necessary, the physical inspection would include field investigation activities, such as conducting exploratory soil borings, geophysical assessments, or any other similar physical investigation confirmation activities to establish the location and boundaries of identified CCRMU, and to affirmatively rule out other areas of potential CCR placement at the facility that were identified during the information review. EPA is further proposing that the scope of the facility evaluation would be the entire facility as the term is currently defined in 40 CFR 257.53 and the evaluation would need to include all of the information specified in the CCRMU Facility Evaluation Report.

As noted, the facility evaluation would begin with a review of all readily and reasonably available information regarding past and present placement of CCR on the ground at the facility. In this first stage, the facility would need to gather all existing information that may be useful to determine any locations at the facility where CCR may have been placed (including spilled) on the ground. EPA expects that in this initial phase, the facility would cast a wide net, and collect all information that could potentially contain useful information to identify the potential locations of CCR placement at the facility. Finally, to complete the information review, the investigatory process would need to be documented, any data gaps identified, and plans for conducting a physical inspection of the site to verify locations, boundaries, and volumes of CCR placement at the facility would need to be formalized. Each step of this process is described in greater detail below.

i. Information Gathering

The first step in the facility evaluation process involves the collection of information that contains any information on whether CCR was either routinely and systematically placed on the ground, or where facility activities otherwise resulted in measurable accumulations of CCR on the ground. The quality and reliability of the information review will depend greatly on the owner's and operator's ability to collect relevant information. Information reviews may provide misleading results when significant sources of information are not considered. EPA is proposing that the information that must be gathered during this step would include any documents that contain information relevant to past facility operations and waste disposal processes. By the conclusion of the facility evaluation, EPA expects that the facility would be able to identify the date, locations, durations, and volumes or estimated quantities of CCR placement.

EPA expects that the amount of available written information and documentation that will be available for review during the document review phase may vary by facility. However, the following documents developed as part of complying with part 257, which are available to facilities, would normally contain information that can be useful in identifying CCRMU: inspection reports; history of construction reports; fugitive dust control plans; annual groundwater monitoring and corrective action reports; ASDs; ACM reports or other corrective action reports; and closure plans and reports. Further, there are other sources of readily available data that frequently contain information relevant to past facility operations and waste disposal processes, such as facility compliance reports produced for non-CCR programs (*e.g.,* Toxic Substances Control Act [TSCA]/ Occupational Safety and Health Administration [OSHA]/National Pollutant Discharge Elimination System [NPDES]/Clean Air Act [CAA]/Clean Water Act [CWA]); permits and permit applications, including NPDES, solid waste, dam safety, and air permits; historical and contemporary monitoring and reporting data, and facility operating logs and maps; and site imagery including available historical aerial photographs, site photographs, topographic maps, and/or engineering or construction drawings, including drawings for physical facility improvement projects, such as surface water control, water and power infrastructure and utilities, roads, berms, ponds and/or other physical features at the facility. EPA expects that facilities would search available records to determine whether they contain information relevant to the potential existence and locations of CCRMU.

EPA is further proposing to require that owners and operators gather information by conducting meetings and interviews with current or former facility personnel and any available state and local officials familiar with the facility to the extent that those persons are available and have knowledge about past and/or present facility operations. The goal of the interview process would be to help gather any information relevant to the facility operations and waste disposal processes. EPA's expectation is that a good faith effort be made to identify key individuals that may have direct knowledge of the facility's historic CCR management to fill in data gaps and/or verify existing information. The expectation is qualitative and dependent on the reasonableness with which individuals can be identified and contacted. However, the purpose and process for determining the need for and the extent of employee interviews, or lack thereof, should be documented in the report. It is in the facility's best interest to evaluate historic management of CCR at the facility, identify CCR management units used throughout that duration, and, where gaps exist, try to identify individuals that may have information or direct knowledge regarding CCR management during those times. EPA expects that, when necessary, individuals involved in making decisions regarding CCR management during historic operations and/or implementing those decisions in the field would be able to be identified based on job titles and duties, time and duration of work service, and/or specific expertise using the facility's human resource records. Most government offices keep records of complaints, permits, and/or other correspondence that should be reviewed as part of the site evaluation. Individual officials in these records may be identified, particularly where they were involved with issues where CCR was managed or placed on the ground, or released to the environment through the air, surface water or groundwater.

It is estimated that the compliance cost associated with meeting and/or interviewing in-house personnel would be negligible for current employees, and minimal (less than 8 hours) for former employees since some effort may be involved with trying to locate and contact them. In addition to the cost for owners and operators to review state or local records for the facility during the facility evaluation, it is estimated that the cost associated with contacting any necessary state or local officials or offices would be minimal (less than 8 hours) since it is unlikely they would be the only source of information for CCR management activities at the facility, and their knowledge of any CCR management units may be limited.

ii. Information Evaluation

During this stage, EPA is proposing to require that a P.E. review the documents and information gathered during the initial step of review to draw conclusions regarding the existence of CCRMU at the facility. At the end of this stage, EPA expects the facility to identify: (1) Any areas where the facility can affirmatively conclude based on the available information that one or more CCRMU are present; and (2) Any areas where the available information indicates that CCR may have been either routinely and systematically placed on the ground, or where facility activities otherwise could have resulted in measurable accumulations of CCR on the ground (*i.e.,* areas where the available information indicates that one or more CCRMU may be present).

Each of the information sources discussed above can provide valuable information that can be used to identify the existence and locations of CCRMU. Some specific examples are provided below:

Environmental reports for multimedia inspections contain useful information on site management practices, monitoring data, and unit conditions. These reports can also describe comprehensive monitoring evaluations at the site that can indicate where releases or areas of concern exist. Multimedia permit and permit applications contain large amounts of information on the facility design, waste management practices including how wastes were disposed of, and the physical characteristics of the surrounding area. These documents can contain old topographic maps, facility figures and drawings, wastestream flow diagrams, and unit and process descriptions.

If a groundwater monitoring report for a CCR unit indicates that contaminant levels in groundwater monitoring wells are the result of CCRMU rather than the monitored CCR unit, this would need to be further investigated during the facility evaluation process to fully delineate the locations of areas where CCR was placed on the ground, including the size of the unit and other related unit details.

Similarly, a review of aerial photographs can identify potential CCRMU at the facility at locations that have become overgrown or otherwise hidden over time. When used in conjunction with USGS topographic maps, owners and operators could look for evidence that may be indicative of placement of CCR on the ground. As an example, if aerial photographs and USGS topographic maps indicate the existence of a pond or dam system at the site, this may be enough to warrant further investigation of available documents and may require field investigation depending on the strength of information to determine if the changes were made to allow placement of CCR on the ground.

Finally, one of the primary purposes of the information review is to provide an understanding of the CCR management activities at the facility, allowing for subsequent observations during the physical site inspection to be focused to the greatest extent practical. While information obtained during the

review may be insufficient to support affirmative conclusions regarding the existence or non-existence of a CCRMU, based on the information available at most facilities, EPA expects that it will be possible to determine which areas at the facility would need to be inspected, and the type of data that would be needed to draw definitive conclusions. The Agency expects that all of the information gathered in the information review will be relevant to determining the areas to be inspected during the physical (visual) site inspection. Further, the information gathered during the information review would be used to support any necessary field activities.

iii. Physical Site Inspection

EPA is proposing to require that a facility conduct a physical site inspection of the entire facility in all cases. The purpose of the physical site inspection is to visually inspect the entire facility for evidence of CCR placement on the ground, ensure that all CCRMU have been identified, and fill any data gaps identified during the initial information evaluation. To that end, EPA is proposing that the physical site inspection must consist of a visual inspection of the entire facility to look for evidence that CCR is currently being managed on the ground. At a minimum, a facility would be required to visually inspect the site to confirm the information obtained from the information review phase and to identify any anomalies that warrant further investigation, such as an unnatural topographic rise or depression or an area where unspecified liquid waste was applied over several years. In addition, EPA is proposing that the facility would be required to conduct any field work such as soil sampling necessary to determine whether areas that had been identified as a potential CCRMU in fact contain CCR and to obtain the information required for the Facility Evaluation Report.

The complexity of past and current facility operations, combined with the amount of data that was available for review during the information review phase would impact how extensive the facility inspection must be. For example, if facility records are sparse or contain data gaps, the Agency expects that the facility inspection would be more thorough than in situations where detailed records exist. However, even in situations where detailed facility records exist, the facility must still conduct a visual inspection to ensure that all CCRMU have been identified, even if those areas were not identified in the initial document review. In addition, EPA expects that in most cases, a facility will need to conduct some sampling or other fieldwork in order to obtain all the information required for the Facility Evaluation Report. For example, even if the facility had as-built engineering drawings for an old landfill, EPA expects that in some cases the facility may still need to conduct some sampling to establish the lateral and vertical dimensions of the CCRMU. If, after conducting a thorough document review and a visual inspection, the facility has found no evidence of any CCRMU, no further testing or sampling would be required to conclude that there are no CCRMU present at the facility. EPA is not proposing to require facilities to conduct widespread site sampling to prove that no CCRMU exist on-site. All recorded observations and data gathered during the facility evaluation, including any conclusions regarding the status of each CCRMU at the facility, must be assembled and incorporated into a Facility Evaluation Report, which is described in detail below.

b. Facility Evaluation Report for CCR Management Units

After completing the first step of the facility evaluation process, EPA is proposing to require the owners and operators of active or inactive facilities with one or more CCR unit(s) to compile and place in the operating record information pertaining to every CCRMU located at the facility no later than 3 months after the effective date of the final rule at § 257.75(c). The Facility Evaluation Report must be posted to the facility's CCR publicly accessible internet site within 30 days of that date. In developing the list of items to be included in the Facility Evaluation Report, the Agency considered certain requirements from existing regulations for History of Construction reports that must be generated for existing CCR surface impoundments at § 257.73(c)(1) as well as other requirements necessary to provide additional information about each CCRMU at the facility. In addition, the Agency is proposing to require that the Facility Evaluation Report include a certification from a P.E. stating that the Facility Evaluation Report meets the requirements at § 257.75(c). See proposed regulatory text at § 257.75(d). Further, the Agency is proposing to require that the Facility Evaluation Report include a certification to be signed by the owner or operator or an authorized representative similar to the certification that is required at § 257.102(e) and § 257.102(f) for existing units undergoing closure. See proposed regulatory text at § 257.75(e).

EPA is proposing that the Facility Evaluation Report must contain the following: (1) The name and address of the person(s) owning and operating the facility; the unit name associated with any CCR unit and CCRMU at the facility; and the identification number of each CCR unit and CCRMU if any have been assigned by the state; (2) The location of any CCRMU identified on the most recent U.S. Geological Survey (USGS) 7.5-minute or 15-minute topographic quadrangle map, or a topographic map of equivalent scale if a USGS map is not available, with the location of each CCR unit at the facility identified; (3) A statement of the purpose(s) for which each CCRMU at the facility is or was being used; (4) A description of the physical and engineering properties of the foundation and abutment materials on which each CCRMU is constructed; (5) A discussion of any known spills or releases of CCR from each CCRMU and whether or not the spills or releases were reported to state or federal agencies; (6) Any record or knowledge of structural instability of each CCRMU; (7) Any record or knowledge of groundwater contamination associated or potentially associated with each CCRMU; (8) Size of each CCRMU, including the general lateral and vertical dimensions and an estimate of the volume of waste contained within the unit; (9) Dates when each CCRMU first received CCR and when each CCRMU ceased receiving CCR; (10) Specification of all CCR wastes that have been managed in each CCRMU at the facility; (11) A narrative description, including any applicable engineering drawings or reports of any closure activities that have occurred; (12) A narrative that documents the nature and extent of field oversight activities and data reviewed as part of the facility evaluation process, and that lists all data and information that was reviewed indicating the absence or presence of CCRMU at the facility; and (13) Any supporting information used to identify and assess CCRMU at the facility, including but not limited to any construction diagrams, engineering drawings, permit documents, wastestream flow diagrams, aerial photographs, satellite images, historical facility maps, any field or analytical data, groundwater monitoring data or reports, inspection reports, documentation of interviews with current or former facility workers, and other documents or sources of information used to identify and assess CCRMU at the facility.

As stated above, the Agency is proposing that the Facility Evaluation Report include a certification to be signed by a P.E. and the owner or operator or an authorized representative. Owners and operators of active or inactive facilities with one or more CCR unit(s) that do not contain any CCRMU would need to complete and place in the operating record a certified Facility Evaluation Report documenting the steps taken during the facility evaluation to determine the absence of any CCRMU. The Facility Evaluation Report must be placed in the facility operating record (§ 257.105(f)(25)), submitted to the appropriate regulating entity (§ 257.106(f)(24)), and published on the facility's website (§ 257.107(f)(24)).

While these requirements apply to facilities with one or more CCR units, owners and operators are required to compile this information only to the extent available. EPA acknowledges that there may be certain information or data that may be unknown or lost. Therefore, in this proposed rule, EPA is using the phrase ''to the extent available'' and clarifying that the term requires the owner or operator to provide information in the Facility Evaluation Report only to the extent that such information is reasonably and readily available. EPA intends that facilities provide relevant information only if documentation exists. EPA does not expect owners or operators to provide anecdotal or speculative information regarding the presence or absence of CCRMU. However, if data gaps exist, owners or operators subject to this proposed rule may need to collect additional field data to fill the gaps.

As stated previously, most of the activity needed to complete the Facility Evaluation and Facility Evaluation Report consists of reviewing reports and other documentation that already exist as a consequence of complying with other provisions in part 257, such as the history of construction, site or unit inspection reports, aerial imagery, quality assurance reports, groundwater monitoring and corrective action reports, or historic boring log reviews (*e.g.,* subsurface investigations, geotechnical studies). Therefore, EPA estimates the hiring and onboarding of a contractor, data compilation, data review, conducting a site inspection, data analyses, and generation of a P.E.-certified report will take a total of 8 to 12 weeks or 2 to 3 months. See Unit IV.A.2.d. Where new analyses are needed (*e.g.,* sampling to establish the dimension of a CCRMU), they are assumed to be minor with data inputs for performing these analyses existing and readily available and capable of being conducted concurrently with some of the data review and report generation. Therefore, EPA believes the proposed deadline for the completion of the Facility Evaluation Report of no later than 3 months after the effective date of the final rule will be sufficient for the completion of these activities.

6. Applicable Existing CCR Requirements for CCR Management Units and Compliance Deadlines

a. Fugitive Dust Requirements for CCR Management Units

The air criteria in the existing regulations address the pollution caused by windblown dust, by requiring the owners and operators of CCR units to minimize CCR from becoming airborne at the facility. 40 CFR 257.80. These requirements apply to the entire facility, which means that the owner or operator is to minimize CCR fugitive dust originating not only from the CCR unit, but also from roads and other CCR management and material handling activities at the facility. Consequently, under this proposal, CCRMU would already be covered by the fugitive dust requirements in § 257.80 because CCRMU are located at facilities with a CCR unit. EPA is therefore only proposing to make those changes to the fugitive dust requirements in § 257.80 that are necessary to make clear that these requirements also apply to CCRMU. Specifically, EPA is to add ''CCRMU'' to the list of units subject to the requirements under § 257.80 and associated provisions under §§ 257.105 through 257.107. EPA solicits comments on amending § 257.80(b)(6) to include a deadline for facilities to amend the fugitive dust control plan no later than 30 days following a triggering event, such as the closure of a CCRMU or change in facility or CCR unit operations.

b. Groundwater Monitoring and Corrective Action Requirements for CCR Management Units

The existing groundwater monitoring criteria in §§ 257.90 through 257.95 require an owner or operator of a CCR unit to install a system of monitoring wells and specify procedures for sampling these wells. Further, it sets forth methods for analyzing the groundwater data collected to detect hazardous constituents (*e.g.,* toxic metals) and other monitoring parameters in Appendix III or IV (*e.g.,* pH, TDS) released from the units. 40 CFR 257.93. Once a groundwater monitoring system and groundwater monitoring program has been established for a CCR unit the owner or operator must conduct groundwater monitoring and, if the monitoring demonstrates an exceedance of the groundwater protection standards for identified constituents in Appendix IV of part 257, corrective action is required. These requirements apply throughout the active life and post-closure care period of the CCR unit. EPA is proposing that the same groundwater monitoring and corrective action requirements that EPA is proposing to establish for legacy CCR surface impoundments would apply to CCRMU.

The existing groundwater monitoring and corrective action requirements in §§ 257.90 through 257.98 are essentially the same requirements that have been applied to both hazardous waste and municipal solid waste disposal units for decades, and with the exception of the one revision that EPA is proposing for legacy CCR surface impoundments, there is nothing about CCRMU that makes them distinct enough to warrant separate requirements. Each of the individual requirements are discussed in greater detail below.

i. Design and Installation of the Groundwater Monitoring System for CCR Management Units

EPA is proposing that owners and operators of CCRMU install the groundwater monitoring system as required by § 257.91 no later than 6 months from the effective date of the rule. See proposed regulatory text at § 257.90(b)(3)(i). The rationale for this compliance date is described in Unit IV.A.2.f.i of this preamble.

ii. Development of the Groundwater Sampling and Analysis Plan for CCR Management Units

EPA is proposing to require that owners and operators of CCRMU comply with the existing groundwater sampling and analysis program requirements for CCR units, including the selection of the statistical procedures, that will be used for evaluating groundwater monitoring data. 40 CFR 257.93 and 257.91(d)(3). See, proposed regulatory text at § 257.90(b)(3)(ii). EPA is proposing this requirement to be completed no later than 6 months after the effective date of the final rule. The rationale for this compliance date is described in Unit IV.A.2.f.ii of this preamble.

iii. Detection Monitoring Program and Assessment Monitoring Program Combined

EPA is proposing to require that facilities simultaneously initiate sampling and analysis of all Appendix

III and IV constituents at CCRMU to expedite the detection and cleanup of contamination from these abandoned unlined impoundments. This is the only revision to the existing groundwater monitoring requirements in §§ 257.90 through 257.95 that EPA is proposing to make for CCRMU.

As laid out in Unit IV.B.1, there is good reason to believe that CCRMU are currently contaminating groundwater. And as is the case with legacy CCR surface impoundments, at sites where the unit has potentially been leaking for a long time, the need to protect human health and environment by quickly detecting the constituents of concern in Appendix IV warrants expediting any necessary corrective action. See, *USWAG* 901 F.3d at 427–30. The rationale for this proposal is further explained in Unit IV.A.2.f.iii of this preamble.

iv. Collection and Analyses of Eight Independent Samples for CCR Management Units

EPA is proposing that no later than 24 months after the effective date of the final rule, owners or operators of CCRMU initiate the detection monitoring program by completing sampling and analysis of a minimum of eight independent samples for each background and downgradient well, as required by § 257.94(b). See proposed regulatory text at § 257.100(f)(4)(iii). Within 90 days after that, they must identify any SSIs over background levels for the constituents listed in Appendix III of this part, as required by § 257.94. EPA is also proposing that by this same deadline they initiate the assessment monitoring program by establishing groundwater protection standards and beginning the evaluation of the groundwater monitoring data for statistically significant levels over groundwater protection standards for the constituents listed in Appendix IV of this part as required by § 257.95. Then, if a statistically significant level over a groundwater protection standard for any of the constituents listed in Appendix IV of this part is found, the owner or operator of the legacy CCR surface impoundment must perform any required corrective action in accordance with §§ 257.96 through 257.98. The rationales for these deadlines are explained in Unit IV.A.2.f.iv. of this preamble.

v. Preparation of Initial Groundwater Monitoring and Corrective Action Report for CCR Management Units

EPA is proposing to apply the existing requirements in § 257.90(e) for preparation of an annual groundwater monitoring and corrective action report to CCRMU and that owners and operators of CCRMU comply no later than January 31 of the year following the calendar year a groundwater monitoring system has been established for such CCR management unit, and annually thereafter. See proposed regulatory text at § 257.90(e)(1). The rationale for the components of this report and the expedited compliance deadline is explained in Unit IV.A.2.f.v of this preamble.

c. Closure and Post-Closure Care Criteria for CCR Management Units

EPA is proposing to apply the existing closure criteria for CCR surface impoundments in §§ 257.101 and 257.102 to CCRMU. EPA is also proposing to require that all CCRMU initiate closure, whether or not they are currently contaminating groundwater. Consistent with the proposal for legacy CCR surface impoundments, EPA is proposing to explicitly state that the alternative closure provisions in § 257.103 would not be applicable to CCRMU. Finally, EPA is proposing to apply the existing post-closure care requirements in § 257.104 to CCRMU. Each of these proposals are discussed in detail below

i. Criteria for Conducting Closure of CCRMU and Requirement To Close

Requiring the closure of CCRMU in accordance with §§ 257.101–257.102 would provide significant risk mitigation. As laid out in Unit IV.B.1 of this preamble, CCRMU at both inactive and active facilities pose significant risks to human health and the environment, at levels that are at least as significant as the risks presented by legacy CCR surface impoundments and the units currently regulated under the 2015 CCR Rule. Additionally, this is consistent with the existing CCR regulations, which require closure of all CCR units that have ceased receiving waste to mitigate the risks such units pose to human health and the environment. *See,* 40 CFR 257.102(e)(1). In particular, risks identified on a national scale are from releases of arsenic, lithium and molybdenum to groundwater. Available toxicological profiles indicate that ingestion of arsenic is linked to increased likelihood of cancer in the skin, liver, bladder and lungs, as well as nausea, vomiting, abnormal heart rhythm, and damage to blood vessels; ingestion of lithium is linked to neurological and psychiatric effects, decreased thyroid function, renal effects, cardiovascular effects, skin eruptions, and gastrointestinal effects; and ingestion of molybdenum is linked to higher levels of uric acid in the blood, gout-like symptoms, and anemia. 80 FR 21451. To date, groundwater monitoring required by the 2015 CCR Rule has revealed that at least 40% of currently regulated surface impoundments and landfills have identified groundwater contamination and require corrective action to mitigate the associated risks. This number is expected to increase as more facilities come into full compliance with the rule. Another 23% of units have identified evidence of leakage and continue to monitor groundwater to ensure that contamination does not occur before the unit can be closed and source controls put in place. In many cases, CCRMU are historical landfills and surface impoundments. Thus, the relevant release pathways, exposure routes, and associated harm that can result are the same. As noted above, the risks associated with these CCRMU are anticipated to be at least as significant as the universe of currently operating units. There is further evidence that the risks may be even higher. This is a result of the fact that: (1) These units have been present onsite for longer and had more time to leak, and (2) Riskier disposal practices, such as co-management with coal refuse, were more common in the past. As the D.C. Circuit explained, RCRA requires EPA to set minimum criteria for sanitary landfills that *prevent* harm, not merely to ensure that contamination is remediated. See, USWAG, 901 F.3d at 430.

Further, EPA does not believe that any facility will need to continue to use a CCRMU. These units, by definition, are not currently receiving CCR; any unit currently receiving CCR is regulated under the existing regulations. Instead CCRMU have been ''closed'' by the facility, presumably in accordance with whatever state requirements were in effect at the time, or have been left inactive on-site. Because a continued need to use the disposal unit is a critical component of the alternative closure demonstrations (at § 257.103(f)), it appears that no CCRMU could qualify under the existing provisions. Accordingly, EPA does not believe these provisions are relevant to CCRMU.

While EPA is proposing that the CCR unit closure requirements would apply, EPA requests comment on other approaches to how a facility might implement the requirement to close at a site where the CCRMU lies beneath an operating unit. EPA also solicits comments on whether EPA should not mandate the closure of CCRMU. However, EPA is concerned that if CCRMU were not required to close, EPA

would not adequately address the risks from those units that have waste below the water table. In general, EPA considers that closure is the most certain way to adequately address the source of any releases from these units. Although EPA could rely upon the existing corrective action requirements to achieve source reduction, the Agency is concerned that this will not adequately prevent harm, as the statute requires, because these requirements would only apply upon a determination that the CCRMU has contaminated the aquifer. In addition, the closure requirements in § 257.102 provide a uniform approach that EPA is confident will adequately protect human health and the environment in all situations.

Given the locations of many CCRMU (located in floodplains, or wetlands, or near large surface water bodies), EPA is concerned that the base of these units may intersect with the groundwater beneath the unit. As EPA has previously explained, where the base of a surface impoundment intersects with groundwater, the facility will typically need to include engineering measures specifically to address any continued infiltration of groundwater into the impoundment in order to close with waste in place consistent with § 257.102(d). See, *e.g.,* 87 FR 72989 (Nov 28, 2022), 85 FR 12456, 12464 (March 3, 2020). The same holds true for CCRMU that intersect with groundwater. The existing requirements in § 257.102(d)(1) and (3) apply to all CCR units and EPA is proposing that these provisions would also apply to CCRMU without revision. By contrast, the existing requirements in § 257.102(d)(2), which establish performance standards for drainage and stabilization of the unit, only apply to CCR surface impoundments. These performance standards are critical to ensuring that units that contain liquids are properly and safely closed, and therefore should apply to any unit, including a CCRMU and a CCR landfill, where the CCR remains saturated. Accordingly, EPA is proposing to revise § 257.102(d)(2) so that it applies to all CCR units and CCRMU. EPA provides a background discussion of the existing closure performance standards below. It is important to note that if there is no liquid in the unit, the proposed revision would not require the facility to do anything to meet the performance standards.

The CCR closure requirements applicable to closing with waste in place include general performance standards and specific technical standards that set forth individual engineering requirements related to the drainage and stabilization of the waste and to the final cover system. The general performance standards and the technical standards complement each other, and both must be met at every site.

The specific technical standards related to the drainage of the waste in the impoundment require that, ''free liquids must be eliminated by removing liquid wastes or solidifying the remaining wastes and waste residues.'' 40 CFR 257.102(d)(2)(i). Free liquids are defined as all ''liquids that readily separate from the solid portion of a waste under ambient temperature and pressure,'' regardless of whether the source of the liquids is from sluiced water or groundwater. 40 CFR 257.53. Consequently, the directive applies to both the freestanding liquid in the impoundment and to all separable porewater in the impoundment, whether the porewater was derived from sluiced water, stormwater run-off, or groundwater that migrates into the impoundment. In situations where the waste in the unit is inundated with groundwater, the requirement to eliminate free liquids thus obligates the facility to take engineering measures necessary to ensure that the groundwater, along with the other free liquids, has been permanently removed from the unit prior to installing the final cover system. See, 40 CFR 257.102(d)(2)(i).

In addition to the process-specific technical requirements, all closures must meet the requirements in the general performance standard to ''control, minimize or eliminate, to the maximum extent feasible,'' both post-closure infiltration of liquids into the waste and releases of CCR or leachate out of the unit to the ground or surface waters, and to ''preclude the probability of future impoundment of water, sediment, or slurry.'' 40 CFR 257.102(d)(1)(i), (ii). EPA construes the word ''infiltration'' in this regulation as a general term that refers to the migration or movement of liquid into or through a CCR unit from any direction, including the top, sides, and bottom of the unit. This is consistent with the plain meaning of the term. For example, Merriam-Webster defines infiltration to mean ''to pass into or through (a substance) by filtering or permeating'' or ''to cause (something, such as a liquid) to permeate something by penetrating its pores or interstices.'' Similarly, the Cambridge English Dictionary defines infiltration as ''the process of moving slowly into a substance, place, system, or organization,'' and provides the following example ''It is important to manage moisture infiltration into buildings.'' *https://dictionary.cambridge.org/us/dictionary/english/infiltration* (website visited 10/22/2022). None of these definitions limit the source or direction by which the infiltration occurs.

In situations where the groundwater intersects an unlined CCR unit, water may infiltrate into the unit from the sides and/or bottom of the unit because the base of the unit is below the water table. In this scenario, the CCR in the unit will be in continuous contact with water. This contact between the waste and groundwater provides a potential for waste constituents to be dissolved and to migrate out of (or away from) the closed unit. In such a case, the general performance standard also requires the facility to take measures, such as engineering controls, that will ''control, minimize, or eliminate, to the maximum extent feasible, post-closure infiltration of liquids into the waste'' as well as ''post-closure releases to the groundwater'' from the sides and bottom of the unit. 40 CFR 257.102(d)(1).

Whether any particular unit can meet these performance standards is a fact and site-specific determination that will depend on a number of considerations, such as the hydrogeology of the site, the design and construction of the unit, and the kinds of engineering measures implemented at the unit. Accordingly, the fact that prior to closure the base of a unit intersects with groundwater does not mean that the unit may not ultimately be able to meet the performance standards in § 257.102(d) for closure with waste in place. Depending on the site conditions, a facility may be able to meet these performance standards by demonstrating that a combination of engineering measures and site-specific circumstances will ensure that as a consequence of complying with the closure performance standards, the groundwater will no longer be in contact with the waste in the closed unit. As one example, where groundwater intersects with only a portion of an impoundment, the facility could close that portion of the unit by removing the CCR from that area of the unit but leaving waste in place in other areas. As another example, if the entire unit sits several feet deep within the water table, engineering controls can potentially be implemented to stop the continued flow of groundwater into and out of the waste. See, EPA Office of Solid Waste, Closure of Hazardous Waste Surface Impoundments, SW–873, p 81 (September 1982), Revised Edition.

Concerns have been raised that the existing regulations do not clearly support the above description. For

example, some have argued that the term ''infiltration'' only refers to the movement of water into a unit from the surface through a cover system, or that the regulations do not require facilities to eliminate ''free liquids'' derived from groundwater. Although EPA strongly disagrees and considers that the plain text of the regulation already clearly communicates the positions laid out above, the Agency requests comment on whether to revise the existing regulatory text so that it addresses the particular issues that regulated entities have raised. Specifically, as discussed previously EPA is requesting comments on whether to include a regulatory definition of the term ''liquids,'' which could specify that the term includes free water, porewater, standing water, and groundwater. Similarly, EPA requests comment on whether to adopt a regulatory definition of the term ''infiltration,'' consistent with term's plain meaning and the dictionary definitions referenced above.

ii. Preparation of a Written Closure Plan for CCR Management Units

EPA is proposing that owners and operators of CCRMU comply with the existing requirements of § 257.102(b) requiring the preparation of a written closure plan. See proposed regulatory text at § 257.102(b)(2)(iii). EPA is proposing a deadline of 12 months after the effective date of the rule to complete the closure plan. The rationale for the components of this report and for this compliance date is described in Unit IV.A.2.g.ii of this preamble.

iii. Preparation of a Written Post-Closure Care Plan for CCR Management Units

EPA is proposing that owners and operators of CCRMU would be required to comply with the existing requirement in § 257.104(d) regarding the preparation of a written post-closure. See, proposed regulatory text at § 257.104(d)(4)(iii). EPA is proposing to require the post-closure care plan no later than 12 months after the effective date of the final rule. The rationale for the components of this report and for this compliance date is described in Unit IV.A.2.g.iii of this preamble.

iv. Deadline To Initiate Closure for CCR Management Units

EPA is proposing that owners and operators of CCRMU initiate closure no later than 12 months after the effective date of the final rule. See proposed regulatory text at § 257.101(f). EPA's rationale for this timeframe is included in Unit IV.A.2.g.iv and Unit IV.A.2.a.ii of this preamble.

v. Deadline To Complete Closure for CCR Management Units

The existing CCR regulations currently require (at § 257.102(f)) an owner or operator of a CCR surface impoundment generally to complete closure activities within five years from initiating closure. The regulations also establish the conditions for extending this deadline, upon a showing that additional time is necessary.

EPA is proposing to apply the CCR surface impoundment closure timeframes because EPA has concluded that CCRMU closure will closely resemble CCR impoundment closures. First, as discussed in Unit IV.B.2.a, EPA identified a total of 134 areas where CCR is being managed, but which remain exempt under existing federal CCR regulations. Over half of these areas are associated with former, federally unregulated CCR surface impoundments. For those former impoundments that will be closed with waste in place, the owner or operator would need to procure substantial volumes of soil or borrow material to properly achieve the subgrade elevations needed to support the final cover system. For some CCRMU this material acquisition will involve the movement of tens of thousands of truckloads of soil or borrow material. This situation would also apply to certain CCR fill placements as well as to inactive CCR landfills where past waste disposal did not reach the landfill's design capacity (*i.e.,* landfill airspace was not fully utilized). In these situations, EPA believes the timeframes to complete closure for existing CCR surface impoundments are more appropriate (*i.e.,* 5 years) than, for example the 6 months (and limited time extensions) provided for existing CCR landfills.

Second, EPA is finding through implementation of the existing regulations that a significant percentage of facilities are electing to close CCR units by removal of waste. If owners and operators of CCRMU were to similarly choose this approach to closure, a shorter timeframe would only be sufficient for smaller-sized CCRMU since removal operations often require tens of thousands of truckloads to relocate CCR to a suitable location.

Finally, as discussed in Unit IV.B.6, the Agency is concerned that the base of at least some CCRMU may intersect with the groundwater beneath the unit because CCRMU may be located in floodplains or wetlands, or near large surface water bodies. EPA's experience in implementing the regulations is that such closures are generally more complex and take longer to complete. This is because the facility will typically need to incorporate engineering measures into the closure activities to ensure that the groundwater will no longer be in contact with the waste in the unit. EPA thus believes the timeframes to complete closure of CCRMU should be the same as the timeframes provided for existing CCR surface impoundments.

In addition, EPA is proposing to make CCRMU eligible for limited time extensions to complete closure when justified by the owner or operator. EPA recognizes that there can be unforeseen and extraordinary circumstances that warrant additional time to close a CCRMU. For example, these circumstances can include climate of the location. Weather delays, and the need for coordination with and approvals from state regulatory agencies. Accordingly, the rule proposes to adopt the same procedures currently applicable to CCR surface impoundments, which would allow the owner or operator to obtain additional time to complete the closure of a CCRMU, provided the owner or operator can make the prescribed demonstrations. Consistent with the existing requirements for CCR surface impoundments, the amount of additional time that a facility could obtain would vary based on the size (using surface area acreage of the CCR unit as the surrogate of size) of the CCRMU. For CCRMU 40 acres or smaller, the maximum time extension is 2 years. For CCRMU greater than 40 acres, the maximum time extension is five 2-year extensions (10 years), and the owner or operator must substantiate the factual circumstances demonstrating the need for each 2-year extension. See proposed regulatory text at § 257.102(f)(2).

vi. Post-Closure Care for CCR Management Units

The existing post-closure care criteria require the monitoring and maintenance of units that have closed in place for at least 30 years after closure has been completed. 40 CFR 257.104. During this post-closure period, the facility would be required to continue groundwater monitoring and corrective action, where necessary. EPA is proposing to apply these existing requirements to CCRMU without revision. These criteria are essential to ensuring the long-term safety of CCRMU.

d. Recordkeeping, Notification and Internet Posting for CCR Management Units

As discussed in Unit IV.A.2.h of this preamble, the 2015 CCR Rule required at §§ 257.105 through 257.107 for owner or operators of CCR units to record certain information in the facility's operating record. In addition, owners and operators are required to provide notification to states and/or appropriate Tribal authorities when the owner or operator places information in the operating record, as well as to maintain a website for this information. Similar to legacy CCR surface impoundments, EPA is proposing that owners and operators of CCRMU be subject to certain recordkeeping, notification, and website reporting requirements in the CCR regulations. EPA is proposing that the applicable recordkeeping requirements in § 257.105, the notification requirements in § 257.106, and posting on a website requirements at § 257.107 would also apply to CCRMU. EPA is also proposing changes to add CCRMU to § 257.107(a) to require the facility to notify the Agency using the procedures for the establishment of the website no later than the effective date of the final rule.

C. Technical Corrections

Through the implementation of the 2015 CCR Rule, the Agency identified an incorrect CFR reference to the definition of technically feasible, technically infeasible, and wetlands EPA also identified inconsistencies in how publicly accessible internet sites are referenced. Therefore, EPA is proposing to amend the CCR regulations so that the regulations clarify definitions, accurately reference the definition of wetlands, and use consistent language when referring to publicly accessible internet sites. The Agency is also proposing to amend an incorrect reference to § 257.99 in the groundwater monitoring scope section. Finally, EPA is requesting comment on extending the period for document retention and posting.

1. Definitions of ''Technically Feasible'' and ''Technically Infeasible''

EPA is proposing to revise the definition of *technically feasible* to clarify that the terms *technically feasible* and *feasible* have the same meaning in the regulations. The existing regulations define *technically feasible* as ''possible to do in a way that would likely be successful.'' EPA codified this definition in 2020 when amending the alternative closure requirements for landfills and impoundments. 85 FR 53542 (August 28, 2020). As EPA explained, the definition was based on two dictionary definitions of ''feasible'': ''capable of being done or carried out''(Merriam website (*https://www.merriam-webster.com/dictionary/feasible*)) and ''possible to do and likely to be successful'' (Cambridge English Dictionary (*https://dictionary.cambridge.org/us/dictionary/english/feasible*)). Id.

However, some rule provisions use the term *feasible.* It is not the Agency's intent to distinguish between these terms. Therefore, EPA is proposing to add the term *feasible* to the existing definition of *technically feasible* to make clear that both terms have the same meaning in the regulations. This definition revision would be accomplished by adding ''or feasible'' to the existing definition so that the definition would read ''*Technically feasible* or *feasible* means possible to do in a way that would likely be successful.'' See proposed regulatory text at § 257.53.

For similar reasons, EPA is proposing to also revise the definition of *technically infeasible* to clarify that the terms *technically infeasible* and *infeasible* have the same meaning in the regulations. See proposed regulatory text at § 257.53.

2. Wetlands Reference Correction

When the 2015 CCR Rule was finalized in April 2015, § 257.61(a) referenced § 232.2 which contained a definition of wetlands. An EPA and United States Army Corps of Engineers joint final rule published June 29, 2015 (80 FR 37053) amended § 232.2 by removing the definition of wetlands. However, the reference to § 232.2 in § 257.61(a) of the 2015 CCR Rule was not updated. The proposed amendment would correct the CFR reference for the wetlands definition by referring to 40 CFR 230.41(a) (December 24, 1980, 45 FR 85344).

3. Groundwater Monitoring and Corrective Action Applicability

EPA is proposing to correct a typographical error in the initial applicability paragraph of the groundwater monitoring and corrective action regulations. In § 257.90(a), the existing regulations refer to the ''groundwater monitoring and corrective action requirements under §§ 257.90 through 257.99''; however, there are no requirements codified under § 257.99. This was brought to our attention by a state interested in permit program approval. To avoid confusion with the regulations, EPA is proposing to revise the section references in § 257.90(a) to read ''groundwater monitoring and corrective action requirements under §§ 257.90 through 257.98.''

4. Publicly Accessible Internet Site

EPA is proposing to change several provisions using the term ''CCR Web site'' to ''CCR website,'' which is the term used in § 257.107(a). The inconsistent spelling of CCR website was brought to our attention by a state interested in permit program approval. To avoid confusion with the regulations, EPA is proposing to correct such references in §§ 257.100(e)(1)(iii) and 257.107(b) through (j).

5. Document Retention

EPA is taking comment on extending the period for document retention and posting found in §§ 257.105 and 257.107. The existing regulations generally require retention of documents in the operating record for a period of five years (§ 257.105(b)) and posting of documents on the facility publicly accessible CCR website for five years (§ 257.107(c)). The Agency now believes these time periods may be too short and that relevant information should remain publicly accessible for a longer time period. Under the existing requirements, information that is still relevant for CCR units could be removed from operating records and taken off websites well before the relevancy of that information has passed and goals of the record retention and posting requirements have been met. For example, for CCR unit closure plans that were posted in 2016 in accordance with § 257.102(b), the time periods have run, allowing closure plans to be removed from operating records and websites. This is true even if the facility has not initiated closure activity and may not initiate closure activity for many years. This was not consistent with EPA's original intent—either for the closure plan itself or for the posted information more generally—which was that the information should remain posted for as long as the information was relevant to evaluating the facility's compliance with the regulations. See, *e.g.,* 80 FR 21335. The Agency continues to believe that much of the information, including plans, reports, and monitoring results, subject to the time period limits will remain relevant and should remain accessible for a much longer period than the original five years. The Agency is taking comment on how long these time periods should be extended. The Agency is considering a general increase in the retention period (*e.g.,* fifteen years) or, alternatively, tying the retention period to a regulatory milestone for each unit (*e.g.,* completion

of closure, post-closure care, or groundwater corrective action) and is seeking comment on which of these approaches, if any, the Agency should adopt. The Agency is considering this extension of retention time for all documents currently subject to the relevant retention time periods as all of these documents could remain relevant longer than the current time periods. Therefore, the goals of information availability and transparency would remain relevant for the CCR program.

V. Effect on State CCR Permit Programs

The proposed revisions to the CCR regulations would both establish standards for new types of units and revise existing requirements for CCR units defined in and subject to the 2015 CCR Rule. For this reason, if EPA takes final action on all the proposed changes, the requirements for approval and retention of a state CCR permit program in accordance with RCRA section 4005(d) will change. How these revisions would affect states depends on whether the state has received approval for the provisions that are ultimately included in any final rule and whether the state is seeking full or partial approval of its permit program.

If EPA has approved a state regulation pursuant to RCRA section 4005(d), that state regulation will continue to operate in lieu of the federal program, even if EPA subsequently revises the federal analog of that regulation. See 42 U.S.C. 6945(d)(1)(A), (3). In essence this means that any federal revisions would not take effect in the approved state until the state revises the program to adopt them. In order to maintain approval, the state must revise such a regulation within three years of any revision to the federal CCR regulation that is more protective. See, 42 U.S.C. 6945(d)(1)(D)(i)(II). Conversely, where EPA has not approved a state requirement, the federal requirements continue to apply directly to the facilities in that state. As a consequence, any revisions to the federal requirements will take effect in states without an approved program because the federal requirements continue to operate.

As discussed in Units IV.A and IV.B of this preamble, EPA is proposing to establish requirements for legacy CCR surface impoundments and CCRMU. Because legacy CCR surface impoundments and CCRMU are new types of federally regulated units, no state is currently approved to issue state CCR permits to such units in lieu of the federal CCR regulations. Thus, any state that wants approval to issue permits to such units will be required to update the state CCR regulations and go through the state CCR permit program approval process set forth in RCRA section 4005(d).

As discussed in Units IV.B.9 and IV.C of this preamble, EPA is also proposing to revise requirements under the existing CCR regulations. The revised requirements will directly apply to affected facilities except to the extent EPA has already approved the state to issue permits for the original requirement. In such a case the state requirement will apply in lieu of the new federal requirement until the state program is revised. EPA considers at least one of these proposals (the proposal to expand § 257.102(d)(2) to landfills that are inundated with groundwater) to be more stringent than the existing regulations.

Accordingly, all states will have to consider whether to update their state CCR regulations and seek approval to issue permits for legacy CCR surface impoundments and CCRMU. In addition, states with approved CCR permit programs will be required to revise their regulations to address any new requirements applicable to CCR units, to the extent those requirements are more stringent than the approved state CCR permit program.[79] Similarly, states that are currently working with the Agency to obtain approval of their state CCR permit program will need to update their state programs to address the new requirements applicable to CCR units if the state wishes to seek full program approval and the new requirements are more stringent.[80]

The process for approving modifications is the same as for the initial program approval: EPA will propose to approve or deny the program modification and hold a public hearing during the comment period. EPA will then issue the final program determination within 180 days of determining that the state's submission is complete.

EPA requests comment on the effect of this proposed rule on state CCR permit programs. EPA specifically requests comment on whether the proposed revisions to the existing requirements that apply to CCR units will be more stringent than the existing state CCR permit requirements, such that the states with approved programs and states currently in the process of seeking approval would need to revise their state CCR permit program to retain or obtain approval, respectively.

VI. The Projected Economic Impact of This Action

A. Introduction

EPA estimated the costs and benefits of this action in a Regulatory Impact Analysis (RIA), which is available in the docket for this action.

B. Affected Universe

The universe of facilities and units affected by the proposed rule includes three categories. The first is comprised of facilities with legacy CCR surface impoundments. The RIA identifies 127 legacy CCR surface impoundments located at 59 facilities. The second component of the affected universe is composed of CCRMU. The RIA identifies 134 units at 82 facilities. The final component of the universe is comprised of CCR landfills that are already regulated under the 2015 CCR final rule, but which have waste in contact with groundwater. The RIA identifies 19 units.

C. Baseline Costs

The RIA examines the extent to which baseline practices at legacy CCR surface impoundments and CCRMU address contamination in a manner consistent with the requirements of the proposed rule. To the extent that legacy CCR surface impoundments and CCRMU are already sufficiently addressing contamination, they are assumed to not incur costs or realize benefits under the proposed rule. To estimate the proportion of legacy CCR surface impoundments addressing contamination in the baseline, the RIA examines relevant federal and state programs and determines that about 5.5% of legacy CCR surface impoundments are addressing site contamination. To estimate the proportion of CCRMU addressing contamination, the RIA examines publicly available filings from owners and operators of regulated coal fired power plants. The RIA estimates that about 34% of CCRMU are undergoing sitewide corrective action and closure in a manner sufficient to meet the requirements of the proposed rule.

D. Costs and Benefits of the Proposed Rule

The RIA estimates that the annualized costs of this action will be approximately $413 million per year when discounting at 7%. Of this, $237 million is attributable to the requirements for legacy CCR surface

[79] Currently the states of Georgia, Oklahoma, and Texas have approval for state CCR permit programs.

[80] Currently, EPA is working with the states of Alabama, Arizona, Florida, Illinois, Indiana, Kansas, Louisiana, Maryland, Michigan, North Carolina, North Dakota, Pennsylvania, Tennessee, Utah, Virginia, West Virginia, Wisconsin, and Wyoming on drafting CCR regulations or a draft CCR permit program.

impoundments, which are subject to the D.C. Circuit's order in *USWAG,* $170 million is attributable to the requirements for CCRMU, and $6 million is attributable to requirements for landfills. The RIA estimates that the annualized costs of this action will be approximately $356 million when discounting at 3%. Of this, $204 million is attributable to the requirements for legacy CCR surface impoundments, $146 million is attributable to the requirements for CCRMU, and $6 million is attributable to requirements for landfills. The costs of this proposed rule are discussed further in the RIA and include the costs of unit closure, corrective action, fugitive dust controls, structural integrity inspections, and recordkeeping and reporting.

The RIA estimates that the annualized monetized benefits attributable to this action will be approximately $49 million per year when discounting at 7%. Of this, $30 million is attributable to the requirements for legacy CCR surface impoundments, $16 million is attributable to the requirements for CCRMU, and $3 million is attributable to requirements for landfills. The RIA estimates that the annualized monetized benefits attributable to this action will be approximately $77 million per year when discounting at 3%. Of this, $47 million is attributable to the requirements for legacy CCR surface impoundments, $25 million is attributable to the requirements for CCRMU, and $5 million is attributable to requirements for landfills. The monetized benefits of this proposed rule are discussed further in the RIA, and include reduced incidents of cancer from the consumption of arsenic in drinking water, avoided intelligence quotient (IQ) losses from mercury and lead exposure, non-market benefits of water quality improvements, and the protection of threatened and endangered species. EPA also monetized the benefits of avoided impoundment failures, including both ''catastrophic'' failures and smaller-volume releases. One example of a severe impoundment failure is the Dan River Steam Station failure which occurred in 2014, when a stormwater drainage pipe under the inactive surface impoundments at the Dan River Steam Station caused the inadvertent release of 39,000 tons of CCR directly into the nearby Dan River. The result high-end estimate of the costs of this impoundment failure is $300 million.

The RIA also describes a number of important benefits that cannot currently be quantified of monetized due to data limitations or limitations in current methodologies. These benefits include reducing the baseline risk of unit leakage and failure attributable to climate-change driven severe weather events. Many legacy CCR surface impoundments and CCRMU are situated close to rivers or are located along the coast. These units are vulnerable to inland or coastal flooding, which may occur at an increased frequency due to the effects of climate change. Flooding events may cause these units to overtop or catastrophically collapse, releasing CCR into the environment, exposing nearby communities to toxic contamination and necessitating potentially costly cleanup and remediation. EPA has identified 36 legacy CCR impoundments at medium or high risk from climate change driven flooding, and 27 CCRMU at medium or high risk from climate change driven flooding.

Another set of benefits outside the scope of quantification include reducing the instance of negative human health impacts such as cardiovascular mortality, neurological effects, and cancers (separate from the quantified cancer benefits) brought on by exposure to toxins found in coal ash. Either through leaking impoundment sites or release events, many pollutants from legacy CCR surface impoundments are likely to contaminate nearby water bodies, affecting surface waters, local fish populations, and drinking water reservoirs. Because known transport pathways exist between these release events and human heath endpoints, EPA expects the proposed rule to cause risk reductions for various categories that are not yet quantifiable. Toxins such as thallium, molybdenum, and lithium, while all present in CCR, lack the data to create dose-response relationships between ingestion rates and specific health endpoints, and thus precludes EPA from quantifying associated benefits.

The RIA describes several surface water quality benefits such as the improved health of ecosystems proximate to CCR disposal units, and the avoided costs of treating public drinking water impacted by CCR contamination. EPA expects leakages or releases of effluent from any CCR surface impoundment site to contaminate nearby surface waters and environments. Introduction of arsenic, selenium, and other heavy metals associated with CCR surface impoundment contents are shown to accumulate in sediments of nearby stream and lake beds, posing risks and injury to organisms and consequently ecosystems. Although surface waters are broadly protected from high levels of contaminants under EPA's regulations and Water Quality Criteria (WQC), complex interactions from trace amounts of heavy metals and other toxins known to be released from legacy CCR surface impoundment sites have displayed measurable impact to aquatic animals and ecosystems.[81]

The proposed rule may result in avoided drinking water treatment costs and drinking water quality improvements at public water systems. First, by reducing the risk of CCR leakage events and impoundment failures, the proposed rule will help avoid costs of water quality treatment at public intake sources. Second, by preventing release events the proposed rule has the potential to reduce the incidence of eutrophication in source waters for public drinking supplies. Eutrophication is primarily caused by an overabundance of nitrogen and phosphorus. It causes foul tastes and odors, which require additional treatment, and commensurate expenditure, to remove.

The RIA discusses potential impacts on the market for the beneficial use of CCR as a substitute for virgin materials. Future uses of CCR are unknown. Research on the recovery of rare earth elements and yttrium from coal fly ash is ongoing but currently only at laboratory scale. It is possible that in the future, the availability of additional CCR may reach an equilibrium price that encourages demand, particularly as coal plants retire and the supply of ''new'' CCR falls. However, the quality of CCR in legacy CCR surface impoundments and CCRMU may limit their value. Older, closed impoundments or other CCR storage areas are less likely to have CCR material of a known and reliable composition.

The RIA also discusses potential reductions in fugitive dust emanating from legacy CCR surface impoundments, which will benefit fence line communities by reducing the amount of resuspended ash from legacy CCR surface impoundments that could otherwise lead to respiratory health hazards for communities surrounding a given legacy surface impoundment.

The RIA discusses the benefits of improved property values near closed and remediated sites. Neighborhoods located near hazardous waste sites often experience depressed property values due to health risks posed by contaminant exposure pathways, potential reductions in ecological services, unsightly aesthetics of the

[81] Brandt, Jessica E., et al. ''Beyond selenium: coal combustion residuals lead to multielement enrichment in receiving lake food webs.'' Environmental science & technology 53.8 (2019): 4119–4127.

disposal unit site, and potential stigma associated with proximity to a disposal site. Almost a million households, and over 2.5 million people are located within 3 miles of legacy CCR surface impoundments and CCRMU. Approximately 75,000 households and 200,000 people are located within a mile. Improvements in home values resulting from the proposed rule have the potential to bestow welfare gains to homeowners located near legacy CCR units and CCR management units.

The RIA also discusses the value of reusing land formerly occupied by legacy CCR surface impoundments, and CCRMU. Once legacy CCR surface impoundments and CCRMU are closed by removal, or landfills are properly capped, or corrective action activities are completed, the land is more likely to move into alternative, economically productive purposes. For example, these land reuse projects might include industrial redevelopment or implementation of green energy generation which can utilize the existing electricity grid infrastructure.

Finally, based on the demographic composition and environmental conditions of communities within one and three miles of legacy CCR surface impoundments, these proposals will reduce existing disproportionate and adverse effects on economically vulnerable communities, as well as those that currently face environmental burdens. For example, in Illinois the population living within 1 mile of legacy CCR surface impoundment sites is over three times as likely compared to the state average to have less than a high school education (35.66% compared to 10.10%, see RIA exhibit ES.14), and that population already experiences higher than average exposures to particulate matter, ozone, diesel emissions, lifetime air toxics cancer risks, and proximity to traffic, Superfund sites, Risk Management Plan sites, and hazardous waste facilities (see RIA exhibit ES.15).

The RIA also discusses the interaction of the CCR rules with Air rules governing emissions at power plants. Following on the significant progress EPA has made over many decades to reduce dangerous pollution from coal-fired electric utilities' stack emissions and effluents, this proposed rule will help EPA further ensure that the communities and ecosystems closest to coal facilities are sufficiently protected from harm from groundwater contamination, surface water contamination, fugitive dust, floods and impoundment overflows, and threats to wildlife. The volume and toxicity of CCR at many sites persisted or increased over past decades even as coal-fired units' air and water emissions decreased, and this proposed rule will help EPA fulfill the promise of substantial public health and welfare gains from its full suite of regulations aimed at reducing the harms from coal-combustion pollution.

As noted previously, EPA establishes the requirements under RCRA sections 1008(a)(3) and 4004(a) without taking cost into account. *See, USWAG,* 901 F.3d at 448–49. Although EPA has accordingly designed its proposal based on its statutory factors and court precedent and has not relied on this benefit-cost analysis in the selection of its proposed alternative, EPA believes that after considering all unquantified and distributional effects, the public health and welfare gains that will result from the proposed alternative would justify the rule's costs.

Under section 3(f)(1) of Executive Order 12866, this action is considered a significant action.

VII. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *https://www.epa.gov/laws-regulations/laws-and-executive-orders.*

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

Under section 3(f)(1) of Executive Order 12866, this action is a significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review. Any changes made in response to recommendations received as part Executive Order 12866 review have been documented in the docket. EPA prepared an analysis of the potential costs and benefits associated with this action. This analysis, Regulatory Impact Analysis: Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Legacy CCR Surface Impoundments, is available in the docket. and is briefly summarized in section VII.

B. Paperwork Reduction Act (PRA)

The information collection activities in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the PRA. The Information Collection Request (ICR) document that the EPA prepared has been assigned EPA ICR number 2761.01. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here.

The proposed rule requires legacy CCR surface impoundments to comply with the reporting and recordkeeping requirements already in place for regulated CCR units. Many of these requirements are one-time requirements that will occur soon after the promulgation of the rule, while several are ongoing. The proposed rule also requires legacy CCR surface impoundments to submit an applicability report, unique to this universe of units, which will provide stakeholders with essential site characteristic and contact information for the unit.

Respondents/affected entities: Inactive coal fired electric utility plants with inactive CCR surface impoundments (legacy CCR surface impoundments), coal-fired electric utility plants with CCRMU, and coal-fired electric utility plants with landfills already subject to regulation under the 2015 final CCR rule, but which have waste in contact with groundwater.

Respondent's obligation to respond: The recordkeeping, notification, and posting are mandatory as part of the minimum national criteria promulgated under Sections 1008(a), 2002(a), 4004, and 4005(a) and (d) of RCRA.

Estimated number of respondents: 273.

Frequency of response: one-time and annually.

Total estimated burden: 70,700 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $24.4 million (per year), includes $20.4 million annualized capital or operation & maintenance costs.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9.

Submit your comments on the Agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden to the EPA using the docket identified at the beginning of this rule. The EPA will respond to any ICR-related comments in the final rule. You may also send your ICR-related comments to OMB's Office of Information and Regulatory Affairs using the interface at *www.reginfo.gov/public/do/PRAMain.* One may find this particular information collection by selecting ''Currently under Review—Open for Public Comments'' or by using the search function. OMB must receive comments no later than July 17, 2023.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. The small entities subject to the requirements of this action are owners and operators of coal fired electric utility plants in NAICS code 221112 and firms that own property on which an inactive/retired coal fired power plant is located. The Agency has identified 11 small entities subject to the proposed rule. The Agency estimates that the average annual cost to a small entity that owns CCRMU will be approximately $2.8 million, and the average annual cost to a small entity that owns legacy CCR surface impoundments will be about $2.1 million. EPA makes two assumptions about how small entities will comply with the rule. First, EPA assumes that the units owned by small entities will all require corrective action, and will undergo closure by removal. Second, EPA assumes that small entities will not be able to pass on any compliance costs to ratepayers. These assumptions, in EPA's opinion, constitute a high-end scenario. Eight small entities are estimated to own CCRMU, for an annual cost of approximately $23 million. Three small entities are estimated to own legacy CCR surface impoundments for an annual cost of approximately $6.5 million. In total small entities are estimated to incur approximately $29.5 million in annual costs. The Agency has determined that one small entity may experience an impact above 1% of annual revenues but below 3% of annual revenues, and one small entity may experience an impact greater than 3% of annual revenues. Details of this analysis are presented in the Regulatory Impact Analysis, which can be found in the docket for this action.

D. Unfunded Mandates Reform Act (UMRA)

This action contains a federal mandate under UMRA, 2 U.S.C. 1531–1538, that may result in expenditures of $100 million or more for state, local and tribal governments, in the aggregate, or the private sector in any one year. Accordingly, the EPA has prepared a written statement required under section 202 of UMRA. The statement is included in the docket for this action and briefly summarized here.

The RIA estimates that the proposed rule may affect 127 legacy CCR surface impoundments at 59 facilities, 134 CCRMU at 82 facilities, and 29 landfills already regulated under the 2015 final rule. The proposed rule will extend the existing requirements of the 2015 CCR final rule, found in 40 CFR part 257, subpart D, to these units.

In preparing the 2015 CCR final rule, and consistent with the intergovernmental consultation provisions of section 204 of the UMRA, EPA initiated pre-proposal consultations with governmental entities affected by the rule. In developing the regulatory options for the 2015 CCR Rule, EPA consulted with small governments according to EPA's UMRA interim small government consultation plan developed pursuant to section 203 of UMRA. The details of this consultation can be found in the preamble to the 2015 CCR final rule. Consistent with section 205 of UMRA, EPA identified and considered a reasonable number of regulatory alternatives, and adopted the least-costly approach (*i.e.,* a modified version of the ''D Prime'' least costly approach presented in the 2010 proposed CCR rule). The proposed rule merely extends the provisions of the 2015 final rule to three additional classes of facilities.

This action is not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. The threshold amount established for determining whether regulatory requirements could significantly affect small governments is $100 million annually. The RIA estimates annual average costs of $5 million total for the two local governments identified as owning units subject to the proposed rule. These estimates are well below the $100 million annual threshold established under UMRA. There are no known tribal owner entities of facilities that would incur substantial direct costs under the proposed rule.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications as specified in Executive Order 13175. For the ''Final Rule: Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities'' published April 17, 2015 (80 FR 21302), EPA identified three of the 414 coal-fired electric utility plants (in operation as of 2012) as being located on tribal lands. To the extent that these plants contain CCRMU subject to the proposed rule, the impacts to tribes will be limited to document review and walking the site. As these are not substantial direct costs, this action does not impose substantial direct compliance costs or otherwise have a substantial direct effect on one or more Indian tribes, to the best of EPA's knowledge. Neither will it have substantial direct effects on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

This action is subject to E.O. 13045 (62 FR 19885, April 23, 1997) because it is a significant regulatory action under section 3(f)(1) of E.O. 12866, and EPA believes that the environmental health or safety risks addressed by this action may have a disproportionate effect on children. Accordingly, EPA evaluated the environmental health or safety effects of CCR constituents of potential concern on children. The results of this evaluation are contained in the Human and Ecological Risk Assessment of Coal Combustion Wastes available in the docket for this action.

As ordered by E.O. 13045 Section 1–101(a), EPA identified and assessed environmental health risks and safety risks that may disproportionately affect children in the revised risk assessment. Pursuant to U.S. EPA's Guidance on Selecting Age Groups for Monitoring and Assessing Childhood Exposures to Environmental Contaminants, children are divided into seven distinct age cohorts: 1 to <2 yr, 2 to <3 yr, 3 to <6 yr 6 to <11 yr, 11 to <16 yr, 16 to <21 yr, and infants (<1 yr). Using exposure factors for each of these cohorts, EPA calculated cancer and non-cancer risk results in both the screening and probabilistic phases of the assessment. In general, risks to infants tended to be higher than other childhood cohorts, and also higher than risks to adults. However, for drinking water cancer risks, the longer exposures for adults led to the highest risks. Screening risks exceeded EPA's human health criteria for children exposed to contaminated air, soil, and food resulting from fugitive dust emissions and run-off. Similarly, 90th percentile child cancer and non-cancer risks exceeded the human health

criteria for the groundwater to drinking water pathway under the full probabilistic analysis (Table 5–17 in the Human and Ecological Risk Assessment of Coal Combustion Wastes). The closure, groundwater monitoring and corrective action required by the rule will reduce risks from currently unregulated legacy CCR surface impoundments, and waste management units. Thus, EPA believes that this rule will be protective of children's health.

In general, because the pollution control requirements under the CCR rule will reduce health and environmental exposure risks at all coal-fired electric utility plants, the CCR rule is not expected to create additional or new risks to children.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This action is not a ''significant energy action'' because it is not likely to have a significant adverse effect on the supply, distribution or use of energy. Because the proposed rule addresses management of CCR and pertains solely to inactive CCR units (legacy CCR surface impoundments at inactive facilities and CCR management units at facilities already regulated under the 2015 CCR rule), this proposed rule will have no effect on the production of crude oil, coal, fuel, or natural gas. In addition, the proposed rule will have no direct effect on electricity production, generating capacity, or on foreign imports or exports of energy.

Electricity price effects on the price of energy are only possible because in some cases, utilities may attempt to pass the costs of managing CCR under the proposed rule on to ratepayers in the form of increased electricity rates through Public Utility Commissions (PUCs). As a result, the proposed rule may indirectly affect electricity prices within the energy sector. To estimate what the electricity price effects of this proposed rule may be on a national level, EPA compared the expected costs of this rule to the expected costs and effects resulting from three previously conducted IPM runs for three previous RIAs, the 2015 CCR Rule, the 2015 ELG Rule (which included the costs of the 2015 CCR Rule in its baseline), and the 2019 ELG Rule, which was a deregulatory rule. Extrapolating from these IPM runs, EPA estimates that the effect of the current action on electricity prices will be between 0.042% and 0.125%. Since these effects fall below the 1% threshold, EPA concludes that this rule is not expected to generate significant adverse energy effects. The full energy impacts analysis is available in the Regulatory Impact Analysis that accompanies this action.

I. National Technology Transfer and Advancement Act (NTTAA)

This rulemaking involves technical standards. EPA has decided to use the following technical standards in this rule: (1) RCRA Subpart D, Section 257.70 liner design criteria for new CCR landfills and any lateral expansion of a CCR landfill includes voluntary consensus standards developed by ASTM International and EPA test methods such as SW–846, (2) Section 257.71 liner design criteria for existing CCR surface impoundments includes voluntary consensus standards developed by ASTM International and EPA test methods such as SW–846, (3) Section 257.72 liner design criteria for new CCR surface impoundments and any lateral expansion of a CCR surface impoundment includes voluntary consensus standards developed by ASTM International and EPA test methods such as SW–846, and (4) Section 257.73 structural stability standards for new and existing surface impoundments use the ASTM D 698 and 1557 standards for embankment compaction.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629, February 16, 1994) directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice (EJ) part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on communities with environmental justice concerns.

EPA believes that the human health or environmental conditions that exist prior to this action result in or have the potential to result in disproportionate and adverse human health or environmental effects on communities with environmental justice concerns.

EPA conducted a demographic screening analysis for all legacy CCR surface impoundments and CCRMU to determine the composition of populations living within one and three miles of facilities with these units. Specifically, EPA looked at the percentages of the relevant populations that are identified as minority/people of color, households below the federal poverty level, population with less than high school education (among those 25 years and older), and populations characterized by linguistic isolation. EPA chose to look at radii of one and three miles because they represent the areas most likely to be affected by groundwater contamination from legacy CCR surface impoundments and CCRMU. EPA compared the demographic profile within these radii to national averages to assess the extent to which marginalized groups are disproportionately affected by contamination from legacy CCR surface impoundments and CCRMU in the baseline. EPA found that the following demographic and socioeconomic indicators were more highly represented within one and three miles of sites containing legacy CCR surface impoundments than the U.S. national averages: minority/people of color, Black population, Native American population, Hispanic ethnicity, households below the poverty level, less than high school education, and linguistic isolation. EPA found that the following demographic and socioeconomic indicators were more highly represented within one and three miles of CCRMU: Black population, ''Other'' racial groups, households below the poverty level, and less than high school education. EPA also compared a subset of three population indicators, minority status, less than high school education and linguistic isolation, around legacy CCR surface impoundments and CCRMU against state level population characteristics. In eight of the 25 states (32%) containing legacy CCR surface impoundments affected by the proposed rule, at least one of these three demographic indicators for populations within one mile of the facility was above twice the state average value. In five of the 28 states (18%) containing CCRMU affected by the proposed rule, at least one of the three demographic indicators for populations within one mile of the facility was above twice the state average value.

EPA also examined the cumulative environmental impacts that exist around facilities in the affected universe. EPA looked at the following eight environmental indicators, PM 2.5, O3, Diesel PM, Lifetime Cancer Risk, Traffic Proximity, National Priorities List (NPL) Proximity, Risk Management Plan (RMP) Proximity, and Transportation Storage and Disposal Facility (TSDF) proximity within one mile of facilities in the affected universe. Because environmental indicators are not available at the national level, EPA confined this analysis to states where at least one facility registered twice the

state average on any of the eight environmental indicators. Nine states contain such facilities, and in six of them at least half of the environmental indicators within a mile of facilities containing legacy units were higher than state averages. At the state level, therefore, environmental issues seem to cluster, uniquely impacting communities living within a mile of legacy and management units.

Based on the results of these demographic screening analyses, EPA believes that the human health or environmental conditions that exist prior to this action result in or have the potential to result in disproportionate and adverse human health or environmental effects on communities with environmental justice concerns.

EPA believes that this action is likely to reduce existing disproportionate and adverse effects on communities with environmental justice concerns. Neighborhoods located near legacy CCR surface impoundments and CCR management units are disproportionately occupied by communities with environmental justice concerns. These vulnerable communities face risks of impoundment failure, groundwater contamination, and fugitive air emissions. If such failures or contamination occur, nearby residents will face risks to their health, both cancer and noncancer. Other risks include damage to ecosystem services and environmental amenities. These communities are likely to face existing environmental burdens that put them at greater cumulative risk from the environmental impacts associated with proximity to legacy units. EPA believes that the proposed rule is likely to incrementally reduce baseline disproportionate and adverse effects on communities with environmental justice concerns by requiring closure and corrective action at legacy CCR surface impoundments and CCRMU, thereby reducing the risks of exposure to contamination from CCR faced by these populations. The analyses above examining the demographic composition and environmental conditions of communities within one and three miles of legacy CCR surface impoundments and CCRMU highlight the higher potential incidence of EJ issues in more demographically vulnerable communities. They demonstrate that the proposed rule is likely to improve conditions for nearby communities from the baseline, as these communities are more likely than the national average to be more vulnerable to environmental harms due to their demographics and economic vulnerability and are currently facing existing environmental burdens. It is important to note that proximity to traffic could remain a significant EJ issue and in fact be exacerbated by the proposed rule if removal of CCR from plants with legacy units is undertaken using heavy-duty vehicles and routes that run through residential areas. EJ concerns related to traffic will need to be assessed at a site-by-site level in conversation with nearby communities as EPA implements the proposed rule.

The information supporting this Executive Order review is contained in the accompanying Regulatory Impact Analysis, which can be found in the docket for this action.

List of Subjects in 40 CFR Part 257

Environmental protection, Beneficial use, Coal combustion products, Coal combustion residuals, Coal combustion waste, Disposal, Hazardous waste, Landfill, Surface impoundment.

Michael S. Regan,

Administrator.

For the reasons set out in the preamble, EPA proposes to amend 40 CFR part 257 as follows:

PART 257—CRITERIA FOR CLASSIFICATION OF SOLID WASTE DISPOSAL FACILITIES AND PRACTICES

■ 1. The authority citation for part 257 continues to read as follows:

Authority: 42 U.S.C. 6907(a)(3), 6912(a)(1), 6944, 6945(a) and (d); 33 U.S.C. 1345(d) and (e).

■ 2. Amend § 257.1 by revising paragraph (c)(12) to read as follows:

§ 257.1 Scope and purpose.

* * * * *

(c) * * *

(12) Except as otherwise specifically provided in subpart D of this part, the criteria in subpart A of this part do not apply to CCR landfills, CCR surface impoundments, lateral expansions of CCR units, and CCR management units, as those terms are defined in subpart D of this part. Such units are instead subject to subpart D of this part.

Subpart D [AMENDED]

■ 3. Amend subpart D by remove the phrase ''Web site'' and adding in its place the word ''website'' everywhere it appears.

■ 4. Amend § 257.50 by revising paragraph (c), (d), and (e) to read as follows:

§ 257.50 Scope and purpose.

* * * * *

(c) This subpart also applies to inactive CCR surface impoundments at active electric utilities or independent power producers, regardless of how electricity is currently being produced at the facility.

(d) This subpart applies to CCR management units located at active or inactive facilities with a CCR unit.

(e) This subpart applies to electric utilities or independent power producers that have ceased producing electricity prior to October 19, 2015 and that have a legacy CCR surface impoundment.

* * * * *

■ 5. Revise § 257.52 to read as follows:

§ 257.52 Applicability of other regulations.

(a) Compliance with the requirements of this subpart does not affect the need for the owner or operator of a CCR landfill, CCR surface impoundment, lateral expansion of a CCR unit, or CCR management unit to comply with all other applicable federal, state, tribal, or local laws or other requirements.

(b) Any CCR landfill, CCR surface impoundment, lateral expansion of a CCR unit, or CCR management unit continues to be subject to the requirements in §§ 257.3–1, 257.3–2, and 257.3–3.

■ 6. Amend § 257.53 by:

■ a. Revising the definitions of ''Active life or in operation'', ''Active portion'', ''Closed'', and ''CCR landfill or landfill'';

■ b. Adding the definition of ''CCR management unit'' in alphabetical order;

■ c. Revising the definitions of ''CCR unit'';

■ d. Adding the definition of ''Inactive CCR landfill'' in alphabetical order;

■ e. Revising the definition of ''Inactive CCR surface impoundment'';

■ f. Adding the definitions of ''Inactive facility or inactive electric utility or independent power producer'' and ''Legacy CCR surface impoundment'' in alphabetical order; and

■ g. Revising the definitions of ''Operator'', ''Owner'', ''Qualified person'', ''Qualified professional engineer'', ''State Director'', ''Technically feasible or feasible'', ''Technically infeasible or infeasible'', and ''Waste boundary''.

The revisions and additions read as follows:

§ 257.53 Definitions.

* * * * *

Active life or *in operation* means the period of operation beginning with the initial placement of CCR in the CCR unit or CCR management unit and ending at completion of closure activities in accordance with § 257.102.

Active portion means that part of the CCR unit or CCR management unit that has received or is receiving CCR or non-CCR waste and that has not completed closure in accordance with § 257.102.

* * * * *

Closed means placement of CCR in a CCR unit or CCR management unit has ceased, and the owner or operator has completed closure of the CCR unit or CCR management unit in accordance with § 257.102 and has initiated post-closure care in accordance with § 257.104.

* * * * *

CCR landfill or landfill means an area of land or an excavation that receives CCR and which is not a surface impoundment, a CCR management unit, an underground injection well, a salt dome formation, a salt bed formation, an underground or surface coal mine, or a cave. For purposes of this subpart, a CCR landfill also includes sand and gravel pits and quarries that receive CCR, CCR piles, and any practice that does not meet the definition of a beneficial use of CCR.

CCR management unit means any area of land on which any non-containerized accumulation of CCR is received, placed, or otherwise managed at any time, that is not a CCR unit. This includes inactive CCR landfills and CCR units that closed prior to October 17, 2015.

* * * * *

CCR unit means any CCR landfill, CCR surface impoundment, or lateral expansion of a CCR unit, or a combination of more than one of these units, based on the context of the paragraph(s) in which it is used. This term includes both new and existing units, unless otherwise specified. This term does not include CCR management units.

* * * * *

Inactive CCR landfill means an area of land or an excavation that contains CCR but that no longer receives CCR on or after the effective date of the final rule and that is not a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground or surface coal mine, or a cave. For purposes of this subpart, this term also includes sand and gravel pits that received CCR, and abandoned CCR piles.

Inactive CCR surface impoundment means a CCR surface impoundment located at an active facility that no longer receives CCR on or after October 19, 2015, and still contains both CCR and liquids on or after October 19, 2015.

Inactive facility or *inactive electric utility or independent power producer* means any facility with a legacy CCR surface impoundment subject to the requirements of this subpart that ceased operation prior to October 19, 2015. An electric utility or independent power producer is no longer in operation if it has ceased generating electricity provided to electric power transmission systems or to electric power distribution systems before October 19, 2015. An inactive facility does not include an off-site disposal facility that ceased operation prior to October 19, 2015.

* * * * *

Legacy CCR surface impoundment means a CCR surface impoundment that no longer receives CCR but contained both CCR and liquids on or after October 19, 2015, and that is located at an inactive electric utility.

* * * * *

Operator means the person(s) responsible for the overall operation of a CCR unit or CCR management unit. This term includes those person(s) or parties responsible for disposal or otherwise actively engaged in the solid waste management of CCR. It also includes those responsible for directing or overseeing groundwater monitoring, closure or post-closure activities at a CCR unit or CCR management unit.

* * * * *

Owner means the person(s) who owns a CCR unit or CCR management unit or part of a CCR unit or CCR management unit, or a facility, whether in full or in part.

* * * * *

Qualified person means a person or persons trained to recognize specific appearances of structural weakness and other conditions which are disrupting or have the potential to disrupt the operation or safety of the CCR unit or CCR management unit by visual observation and, if applicable, to monitor instrumentation.

Qualified professional engineer means an individual who is licensed by a state as a Professional Engineer to practice one or more disciplines of engineering and who is qualified by education, technical knowledge and experience to make the specific technical certifications required under this subpart. Professional engineers making these certifications must be currently licensed in the state where the CCR unit(s) or CCR management unit is located.

* * * * *

State Director means the chief administrative officer of the lead state agency responsible for implementing the state program regulating disposal in CCR landfills, CCR surface impoundments, all lateral expansions of a CCR unit, and CCR management units.

* * * * *

Technically feasible or *feasible* means possible to do in a way that would likely be successful.

Technically infeasible or *infeasible* means not possible to do in a way that would likely be successful.

* * * * *

Waste boundary means a vertical surface located at the hydraulically downgradient limit of the CCR unit or CCR management unit. The vertical surface extends down into the uppermost aquifer.

■ 7. Amend § 257.61 by revising the introductory text of paragraph (a) to read as follows:

§ 257.61 Wetlands.

(a) New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must not be located in wetlands, as defined in § 230.41(a) of this chapter, unless the owner or operator demonstrates by the dates specified in paragraph (c) of this section that the CCR unit meets the requirements of paragraphs (a)(1) through (5) of this section.

* * * * *

■ 8. Add § 257.75 to subpart D to read as follows:

§ 257.75 Requirements for identifying CCR management units.

(a) *Applicability.* The requirements of this section apply to owners and operators of active or inactive facilities with one or more CCR unit(s).

(b) *Facility evaluation.* Upon the effective date of the final rule, the owner or operator of an active facility or inactive facility with one or more CCR unit(s) must initiate a facility evaluation to identify all CCR management units at the facility. At a minimum, the presence or absence of CCR management units at the facility must be confirmed and documented through a thorough evaluation of available records that contain the information needed to prepare the Facility Evaluation Report required by paragraph (c) of this section. The facility evaluation must include a physical inspection of the facility. Where necessary, the physical inspection must additionally include field investigation activities to fill data gaps, such as conducting exploratory soil borings, geophysical assessments, or any other similar physical investigation activities to establish the location and boundaries of identified CCR management units, and to affirmatively rule out other areas of potential CCR placement at the facility that were identified during the information

review. The facility evaluation must identify all CCR management units at the facility regardless of when the CCR management unit came into existence.

(c) *Facility evaluation report.* No later than 3 months after the effective date of the final rule, the owner or operator of an active or inactive facility that contains CCR units regulated under this subpart must prepare a Facility Evaluation Report, which shall contain, to the extent available, the information specified in paragraphs (c)(1) through (13) of this section. The owner or operator has prepared the Facility Evaluation Report when the report has been placed in the facility's operating record as required by § 257.105(f)(25).

(1) The name and address of the person(s) owning and operating the facility; the unit name associated with any CCR unit and CCR management unit at the facility; and the identification number of each CCR unit and CCR management unit if any have been assigned by the state.

(2) The location of any CCR management unit identified on the most recent U.S. Geological Survey (USGS) 7 1–2 minute or 15-minute topographic quadrangle map, or a topographic map of equivalent scale if a USGS map is not available. The location of each CCR unit at the facility must also be identified.

(3) A statement of the purpose(s) for which each CCR management unit at the facility is or was being used.

(4) A description of the physical and engineering properties of the foundation and abutment materials on which each CCR management unit is constructed.

(5) A discussion of any known spills or releases of CCR from each CCR management unit and whether the spills or releases were reported to state or federal agencies.

(6) Any record or knowledge of structural instability of each CCR management unit.

(7) Any record or knowledge of groundwater contamination associated with each CCR management unit.

(8) Size of each CCR management unit, including the general dimensions and an estimate of the volume of waste contained within the unit.

(9) Dates when each CCR management unit first received CCR and when each CCR management unit ceased receiving CCR.

(10) Specification of all CCR wastes that have been managed in each CCR management unit at the facility.

(11) A narrative description, including any applicable engineering drawings or reports of any closure activities that have occurred.

(12) A narrative that documents the nature and extent of field oversight activities and data reviewed as part of the facility evaluation process, and that lists all data and information that was reviewed indicating the absence of CCR management units at the facility.

(13) Any supporting information used to identify and evaluate CCR management units at the facility, including but not limited to any construction diagrams, engineering drawings, permit documents, wastestream flow diagrams, aerial photographs, satellite images, historical facility maps, any field or analytical data, groundwater monitoring data or reports, inspection reports, documentation of interviews with current or former facility workers, and other documents used to identify and assess CCR management units at the facility.

(d) The owner or operator of any facility regulated under this subpart must obtain a certification from a qualified professional engineer stating that the Facility Evaluation Report meets the requirements of paragraph (c) of this section.

(e) The owner or operator of any facility regulated under this subpart must certify the Facility Evaluation Report required by paragraph (c) of this section with the following statement signed by the owner or operator or an authorized representative:

> I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(f) The owner or operator of any facility regulated under this subpart that does not contain any CCR management unit must submit a Facility Evaluation Report documenting the steps taken during the facility evaluation to determine the absence of any CCR management unit. The Facility Evaluation Report must include the certifications required under paragraphs (d) and (e) of this section.

(g) The owner or operator of the CCR management unit must comply with the recordkeeping requirements specified in § 257.105(f)(25), the notification requirements specified in § 257.106(f)(24), and the internet requirements specified in § 257.107(f)(24).

■ 9. Amend § 257.80 by revising paragraphs (a), (b) introductory text, (b)(6), the first sentence of (c), and (d) to read as follows:

§ 257.80 Air criteria.

(a) The owner or operator of a CCR landfill, CCR surface impoundment, any lateral expansion of a CCR unit, or CCR management unit must adopt measures that will effectively minimize CCR from becoming airborne at the facility, including CCR fugitive dust originating from CCR units, roads, and other CCR management and material handling activities.

(b) *CCR fugitive dust control plan.* The owner or operator of the CCR unit or CCR management unit must prepare and operate in accordance with a CCR fugitive dust control plan as specified in paragraphs (b)(1) through (7) of this section. This requirement applies in addition to, not in place of, any applicable standards under the Occupational Safety and Health Act.

* * * * *

(6) *Amendment of the plan.* The owner or operator subject to the requirements of this section may amend the written CCR fugitive dust control plan at any time provided the revised plan is placed in the facility's operating record as required by § 257.105(g)(1). The owner or operator must amend the written plan whenever there is a change in conditions that would substantially affect the written plan in effect, such as the construction and operation of a new CCR unit.

* * * * *

(c) *Annual CCR fugitive dust control report.* The owner or operator of a CCR unit or a CCR management unit must prepare an annual CCR fugitive dust control report that includes a description of the actions taken by the owner or operator to control CCR fugitive dust, a record of all citizen complaints, and a summary of any corrective measures taken. * * *

(d) The owner or operator of the CCR unit or a CCR management unit must comply with the recordkeeping requirements specified in § 257.105(g), the notification requirements specified in § 257.106(g), and the internet requirements specified in § 257.107(g).

■ 10. Amend § 257.90 by:

■ a. Revising paragraph (a);

■ b. Adding paragraph (b)(3); and

■ c. Revising paragraphs (c), (d), (e) introductory text, (e)(1), (e)(6) introductory text, (e)(6)(i), (ii), (e)(6)(iii)(B), (e)(6)(iv)(B), (C), (D), and (f).

The revisions and addition read as follows:

§ 257.90 Applicability.

(a) *Applicability.* All CCR landfills, CCR surface impoundments, lateral expansions of CCR units, and CCR management units are subject to the groundwater monitoring and corrective action requirements under §§ 257.90 through 257.98, except as provided in paragraph (g) of this section.

(b) * * *

(3) *CCR management units.* The owner or operator of the CCR management unit must be in compliance with the following groundwater monitoring requirements by the dates specified in paragraphs (b)(3)(i) through (iv) of this section:

(i) *Groundwater monitoring system installation.* No later than 6 months after the effective date of the final rule, install the groundwater monitoring system as required by § 257.91.

(ii) *Groundwater monitoring sampling and analysis program.* No later than 6 months after the effective date of the final rule, develop the groundwater sampling and analysis program to include selection of the statistical procedures to be used for evaluating groundwater monitoring data as required by § 257.93.

(iii) *Initiation of detection monitoring and assessment monitoring.* No later than 24 months after the effective date of the final rule, be in compliance with the following groundwater monitoring requirements:

(A) Initiate the detection monitoring program to include obtaining a minimum of eight independent samples for each background and downgradient well, as required by § 257.94(b).

(B) Begin evaluating the groundwater monitoring data for statistically significant increases over background levels for the constituents listed in appendix III of this part, as required by § 257.94.

(C) Begin evaluating the groundwater monitoring data for statistically significant levels over groundwater protection standards for the constituents listed in appendix IV of this part as required by § 257.95.

(c) Once a groundwater monitoring system and groundwater monitoring program has been established at the CCR unit or a CCR management unit as required by this subpart, the owner or operator must conduct groundwater monitoring and, if necessary, corrective action throughout the active life and post-closure care period of the CCR unit or a CCR management unit.

(d) In the event of a release from a CCR unit or a CCR management unit, the owner or operator must immediately take all necessary measures to control the source(s) of releases so as to reduce or eliminate, to the maximum extent feasible, further releases of contaminants into the environment. The owner or operator of the CCR unit or a CCR management unit must comply with all applicable requirements in §§ 257.96, 257.97, and 257.98.

(e) For existing CCR landfills and existing CCR surface impoundments, no later than January 31, 2018, and annually thereafter, the owner or operator must prepare an annual groundwater monitoring and corrective action report. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31 of the year following the calendar year a groundwater monitoring system has been established for such CCR unit as required by this subpart, and annually thereafter. For CCR management units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31 of the year following the calendar year a groundwater monitoring system has been established for such CCR management unit as required by this subpart, and annually thereafter. For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit or the CCR management unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For the purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record as required by § 257.105(h)(1). At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:

(1) A map, aerial image, or diagram showing the CCR unit or the CCR management unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit or the CCR management unit;

* * * * *

(6) A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit or the CCR management unit. At a minimum, the summary must specify all of the following:

(i) At the start of the current annual reporting period, whether the CCR unit or the CCR management unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95;

(ii) At the end of the current annual reporting period, whether the CCR unit or the CCR management unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95;

(iii) * * *

(B) Provide the date when the assessment monitoring program was initiated for the CCR unit or the CCR management unit.

(iv) * * *

(B) Provide the date when the assessment monitoring program was initiated for the CCR unit or the CCR management unit.

(C) Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit or the CCR management unit; and

(D) Provide the date when the assessment of corrective measures was completed for the CCR unit or the CCR management unit.

* * * * *

(f) The owner or operator of the CCR unit or the CCR management unit must comply with the recordkeeping requirements specified in § 257.105(h), the notification requirements specified in § 257.106(h), and the internet requirements specified in § 257.107(h).

* * * * *

■ 11. Amend § 257.91 by revising paragraphs (a) introductory text, (a)(1) introductory text, (a)(1)(i), (a)(2), (c)(2), (d), (e)(1), and (g) to read as follows:

§ 257.91 Groundwater monitoring systems.

(a) Performance standard. The owner or operator of a CCR unit or a CCR management unit must install a groundwater monitoring system that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield groundwater samples from the uppermost aquifer that:

(1) Accurately represent the quality of background groundwater that has not been affected by leakage from a CCR unit or a CCR management unit. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the CCR management area where:

(i) Hydrogeologic conditions do not allow the owner or operator of the CCR unit or the CCR management unit to

determine what wells are hydraulically upgradient; or

* * * * *

(2) Accurately represent the quality of groundwater passing the waste boundary of the CCR unit or the CCR management unit. The downgradient monitoring system must be installed at the waste boundary that ensures detection of groundwater contamination in the uppermost aquifer. All potential contaminant pathways must be monitored.

* * * * *

(c) * * *

(2) Additional monitoring wells as necessary to accurately represent the quality of background groundwater that has not been affected by leakage from the CCR unit or the CCR management unit and the quality of groundwater passing the waste boundary of the CCR unit or the CCR management unit.

(d) The owner or operator of multiple CCR units or CCR management units may install a multiunit groundwater monitoring system instead of separate groundwater monitoring systems for each CCR unit or CCR management unit.

(1) The multiunit groundwater monitoring system must be equally as capable of detecting monitored constituents at the waste boundary of the CCR unit or CCR management unit as the individual groundwater monitoring system specified in paragraphs (a) through (c) of this section for each CCR unit or CCR management unit based on the following factors:

(i) Number, spacing, and orientation of each CCR unit or CCR management unit;

(ii) Hydrogeologic setting;

(iii) Site history; and

(iv) Engineering design of the CCR unit or CCR management unit.

(2) [Reserved]

(e) * * *

(1) The owner or operator of the CCR unit or the CCR management unit must document and include in the operating record the design, installation, development, and decommissioning of any monitoring wells, piezometers and other measurement, sampling, and analytical devices. The qualified professional engineer must be given access to this documentation when completing the groundwater monitoring system certification required under paragraph (f) of this section.

* * * * *

(g) The owner or operator of the CCR unit or the CCR management unit must comply with the recordkeeping requirements specified in § 257.105(h), the notification requirements specified in § 257.106(h), and the internet requirements specified in § 257.107(h).

■ 12. Amend § 257.93 by revising paragraphs (a) introductory text, (c), (d), (f) introductory text, (f)(6), (g)(1), (h), and (j) to read as follows:

§ 257.93 Groundwater sampling and analysis requirements.

(a) The groundwater monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of groundwater quality at the background and downgradient wells required by § 257.91. The owner or operator of the CCR unit or the CCR management unit must develop a sampling and analysis program that includes procedures and techniques for:

* * * * *

(c) Groundwater elevations must be measured in each well immediately prior to purging, each time groundwater is sampled. The owner or operator of the CCR unit or the CCR management unit must determine the rate and direction of groundwater flow each time groundwater is sampled. Groundwater elevations in wells which monitor the same CCR management area must be measured within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater flow rate and direction.

(d) The owner or operator of the CCR unit or the CCR management unit must establish background groundwater quality in a hydraulically upgradient or background well(s) for each of the constituents required in the particular groundwater monitoring program that applies to the CCR unit as determined under § 257.94(a) or § 257.95(a). Background groundwater quality may be established at wells that are not located hydraulically upgradient from the CCR unit or the CCR management unit if it meets the requirements of § 257.91(a)(1).

* * * * *

(f) The owner or operator of the CCR unit or the CCR management unit must select one of the statistical methods specified in paragraphs (f)(1) through (5) of this section to be used in evaluating groundwater monitoring data for each specified constituent. The statistical test chosen shall be conducted separately for each constituent in each monitoring well.

* * * * *

(6) The owner or operator of the CCR unit or the CCR management unit must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the selected statistical method is appropriate for evaluating the groundwater monitoring data for the CCR management area. The certification must include a narrative description of the statistical method selected to evaluate the groundwater monitoring data.

(g) * * *

(1) The statistical method used to evaluate groundwater monitoring data shall be appropriate for the distribution of constituents. Normal distributions of data values shall use parametric methods. Non-normal distributions shall use non-parametric methods. If the distribution of the constituents is shown by the owner or operator of the CCR unit or the CCR management unit to be inappropriate for a normal theory test, then the data must be transformed or a distribution-free (non-parametric) theory test must be used. If the distributions for the constituents differ, more than one statistical method may be needed.

* * * * *

(h) The owner or operator of the CCR unit or the CCR management unit must determine whether or not there is a statistically significant increase over background values for each constituent required in the particular groundwater monitoring program that applies to the CCR unit or the CCR management unit, as determined under § 257.94(a) or § 257.95(a).

* * * * *

(j) The owner or operator of the CCR unit or the CCR management unit must comply with the recordkeeping requirements specified in § 257.105(h), the notification requirements specified in § 257.106(h), and the internet requirements specified in § 257.107(h).

■ 13. Amend § 257.94 by revising paragraphs (a), (b) and (f) to read as follows:

§ 257.94 Detection monitoring program.

(a) The owner or operator of a CCR unit or a CCR management unit must conduct detection monitoring at all groundwater monitoring wells consistent with this section. At a minimum, a detection monitoring program must include groundwater monitoring for all constituents listed in appendix III to this part.

(b) Except as provided in paragraph (d) of this section, the monitoring frequency for the constituents listed in appendix III to this part shall be at least semiannual during the active life of the CCR unit or the CCR management unit and the post-closure period. For existing CCR landfills and existing CCR surface impoundments, a minimum of eight

independent samples from each background and downgradient well must be collected and analyzed for the constituents listed in appendix III and IV to this part no later than October 17, 2017. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, a minimum of eight independent samples for each background well must be collected and analyzed for the constituents listed in appendices III and IV to this part during the first six months of sampling. For CCR management units, a minimum of eight independent samples from each background and downgradient well must be collected and analyzed for the constituents listed in appendix III and IV to this part no later than 24 months after effective date of the final rule.

* * * * *

(f) The owner or operator of the CCR unit or the CCR management unit must comply with the recordkeeping requirements specified in § 257.105(h), the notification requirements specified in § 257.106(h), and the internet requirements specified in § 257.107(h).

■ 14. Amend § 257.95 by revising paragraphs (b), (e), (g) introductory text, (g)(1) introductory text, the first sentence of (g)(3)(ii), paragraphs (g)(4), (h) introductory text, and (i) to read as follows:

§ 257.95 Assessment monitoring program.

* * * * *

(b)(1) Within 90 days of triggering an assessment monitoring program, and annually thereafter:

(i) The owner or operator of the CCR unit must sample and analyze the groundwater for all constituents listed in appendix IV to this part.

(ii) The owner or operator of a CCR management unit must sample and analyze the groundwater for all constituents listed in appendix IV to this part no later than 24 months after effective date of the final rule.

(2) The number of samples collected and analyzed for each well during each sampling event must be consistent with § 257.93(e) and must account for any unique characteristics of the site, but must be at least one sample from each well.

* * * * *

(e) If the concentrations of all constituents listed in appendices III and IV to this part are shown to be at or below background values, using the statistical procedures in § 257.93(g), for two consecutive sampling events, the owner or operator may return to detection monitoring of the CCR unit or the CCR management unit. The owner or operator must prepare a notification stating that detection monitoring is resuming for the CCR unit or the CCR management unit. The owner or operator has completed the notification when the notification is placed in the facility's operating record as required by § 257.105(h)(7).

* * * * *

(g) If one or more constituents in appendix IV to this part are detected at statistically significant levels above the groundwater protection standard established under paragraph (h) of this section in any sampling event, the owner or operator must prepare a notification identifying the constituents in appendix IV to this part that have exceeded the groundwater protection standard. The owner or operator has completed the notification when the notification is placed in the facility's operating record as required by § 257.105(h)(8). The owner or operator of the CCR unit or the CCR management unit also must:

(1) Characterize the nature and extent of the release and any relevant site conditions that may affect the remedy ultimately selected. The characterization must be sufficient to support a complete and accurate assessment of the corrective measures necessary to effectively clean up all releases from the CCR unit or the CCR management unit pursuant to § 257.96. Characterization of the release includes the following minimum measures:

* * * * *

(3) * * *

(ii) Demonstrate that a source other than the CCR unit or the CCR management unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. * * *

(4) If a successful demonstration has not been made at the end of the 90 day period provided by paragraph (g)(3)(ii) of this section, the owner or operator of the CCR unit or the CCR management unit must initiate the assessment of corrective measures requirements under § 257.96.

* * * * *

(h) The owner or operator of the CCR unit or the CCR management unit must establish a groundwater protection standard for each constituent in appendix IV to this part detected in the groundwater. The groundwater protection standard shall be:

* * * * *

(i) The owner or operator of the CCR unit or the CCR management unit must comply with the recordkeeping requirements specified in § 257.105(h), the notification requirements specified in § 257.106(h), and the internet requirements specified in § 257.107(h).

■ 15. Amend § 257.96 by revising paragraphs (a), (b), and (f) to read as follows:

§ 257.96 Assessment of corrective measures.

(a) Within 90 days of finding that any constituent listed in Appendix IV to this part has been detected at a statistically significant level exceeding the groundwater protection standard defined under § 257.95(h), or immediately upon detection of a release from a CCR unit or a CCR management unit, the owner or operator must initiate an assessment of corrective measures to prevent further releases, to remediate any releases and to restore affected area to original conditions.

(b) The owner or operator of the CCR unit or the CCR management unit must continue to monitor groundwater in accordance with the assessment monitoring program as specified in § 257.95.

* * * * *

(f) The owner or operator of the CCR unit or the CCR management unit must comply with the recordkeeping requirements specified in § 257.105(h), the notification requirements specified in § 257.106(h), and the internet requirements specified in § 257.107(h).

■ 16. Amend § 257.97 by revising paragraphs (c) introductory text, (d) introductory text, and (e) to read as follows:

§ 257.97 Selection of remedy.

* * * * *

(c) In selecting a remedy that meets the standards of paragraph (b) of this section, the owner or operator of the CCR unit or the CCR management unit shall consider the following evaluation factors:

* * * * *

(d) The owner or operator must specify as part of the selected remedy a schedule(s) for implementing and completing remedial activities. Such a schedule must require the completion of remedial activities within a reasonable period of time taking into consideration the factors set forth in paragraphs (d)(1) through (6) of this section. The owner or operator of the CCR unit or the CCR management unit must consider the following factors in determining the schedule of remedial activities:

* * * * *

(e) The owner or operator of the CCR unit or the CCR management unit must comply with the recordkeeping requirements specified in § 257.105(h), the notification requirements specified

in § 257.106(h), and the internet requirements specified in § 257.107(h).

■ 17. Amend § 257.98 by revising paragraphs (a)(3) introductory text, (b), (c)(1), and (f) to read as follows:

§ 257.98 Implementation of the corrective action program.

(a) * * *

(3) Take any interim measures necessary to reduce the contaminants leaching from the CCR unit or the CCR management unit, and/or potential exposures to human or ecological receptors. Interim measures must, to the greatest extent feasible, be consistent with the objectives of and contribute to the performance of any remedy that may be required pursuant to § 257.97. The following factors must be considered by an owner or operator in determining whether interim measures are necessary:

* * * * *

(b) If an owner or operator of the CCR unit or the CCR management unit, determines, at any time, that compliance with the requirements of § 257.97(b) is not being achieved through the remedy selected, the owner or operator must implement other methods or techniques that could feasibly achieve compliance with the requirements.

(c) * * *

(1) The owner or operator of the CCR unit or the CCR management unit demonstrates compliance with the groundwater protection standards established under § 257.95(h) has been achieved at all points within the plume of contamination that lie beyond the groundwater monitoring well system established under § 257.91.

* * * * *

(f) The owner or operator of the CCR unit or the CCR management unit must comply with the recordkeeping requirements specified in § 257.105(h), the notification requirements specified in § 257.106(h), and the internet requirements specified in § 257.107(h).

■ 18. Amend § 257.100 by revising the section heading and paragraph (a), and adding paragraph (f) to read as follows:

§ 257.100 Inactive CCR surface impoundments and Legacy CCR surface impoundments.

(a) Inactive CCR surface impoundments and legacy CCR surface impoundments are subject to all of the requirements of this subpart applicable to existing CCR surface impoundments.

* * * * *

(f) *Timeframes for legacy CCR surface impoundments*—(1) *Legacy CCR surface impoundment applicability documentation.* (i) Excepted as provided in paragraph (f)(1)(ii) of this section, owners and operators of legacy CCR surface impoundments must prepare documentation for each legacy CCR surface impoundment subject to the requirements of this subpart no later than the date the final rule is effective. At a minimum, the documentation for each legacy CCR surface impoundment must contain:

(A) Information to identify the legacy CCR surface impoundment and delineate the unit boundaries, including a figure of the facility and where the unit is located at the facility.

(B) The name associated with the legacy CCR surface impoundment.

(C) The identification number of the legacy CCR surface impoundment if one has been assigned by the state.

(D) Size of the legacy CCR surface impoundment (in acres).

(E) A description of the current site conditions, including the current use of the inactive facility.

(F) The proximity (in feet, or miles, if appropriate) of the legacy CCR surface impoundment to the closest surface water body.

(G) The name and address of the person(s) owning and operating the legacy CCR surface impoundment with their phone number and email address.

(H) The owner or operator of the legacy CCR surface impoundment must notify the Agency of the establishment of the facility's CCR website and the applicability of the rule, using the procedures in § 257.107(a) via the ''contact us'' form on EPA's CCR website.

(ii) For owners and operators of legacy CCR surface impoundments that completed closure of the CCR unit by removal of waste prior to the effective date of the final rule, no later than the effective date of the final rule, complete a closure certification documenting that all closure requirements in § 257.102(c) have been met.

(2) *Design criteria.* The owner or operator of a legacy CCR surface impoundment must:

(i) Except for legacy CCR surface impoundments that are incised, no later than the date the final rule is effective, place on or immediately adjacent to the CCR unit the permanent identification marker as set forth by § 257.73(a)(1).

(ii) Except for legacy CCR surface impoundments that do not exceed the height and/or storage volume thresholds under § 257.73(b), no later than three months after the date the final rule is effective, compile a history of construction as set forth by § 257.73(c).

(iii) Except for legacy CCR surface impoundments that are incised, no later than three months after the date the final rule is effective, complete the initial hazard potential classification assessment as set forth by § 257.73(a)(2) and (f).

(iv) Except for legacy CCR surface impoundments that do not exceed the height and/or storage volume thresholds under § 257.73(b), no later than three months after the date the final rule is effective, complete the structural stability and safety factor assessments as set forth by § 257.73(d), (e), and (f).

(v) Except for legacy CCR surface impoundments that are incised, no later than nine months after the date the final rule is effective, prepare and maintain an Emergency Action Plan as set forth by § 257.73(a)(3).

(3) *Operating criteria.* The owner or operator of the legacy CCR surface impoundment must:

(i) No later than the date the final rule is effective, prepare the initial CCR fugitive dust control plan as set forth in § 257.80(b).

(ii) No later than the date the final rule is effective, initiate the inspections by a qualified person as set forth by § 257.83(a).

(iii) No later than the date the final rule is effective, prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the legacy CCR surface impoundment.

(iv) No later than three months after the date the final rule is effective, complete the initial annual inspection by a qualified professional engineer as set forth by § 257.83(b).

(v) No later than nine months after the date the final rule is effective, prepare the initial inflow design flood control system plan as set forth in § 257.82(c).

(vi) No later than 12 months after the date the final rule is effective, prepare the initial annual fugitive dust control report as set forth in § 257.80(c).

(4) *Groundwater monitoring and corrective action.* The owner or operator of the legacy CCR surface impoundment must:

(i) No later than six months after the date the final rule is effective, install the groundwater monitoring system as required by § 257.91.

(ii) No later than six months after the date the final rule is effective, develop the groundwater sampling and analysis program, including the selection of the statistical procedures, that will be used for evaluating groundwater monitoring data as required by § 257.93.

(iii) No later than 24 months after the date the final rule is effective, be in compliance with the following groundwater monitoring requirements:

(A) Initiate the detection monitoring program to include obtaining a minimum of eight independent samples

for each background and downgradient well, as required by § 257.94(b).

(B) Begin evaluating the groundwater monitoring data for statistically significant increases over background levels for the constituents listed in appendix III of this part, as required by § 257.94.

(C) Begin evaluating the groundwater monitoring data for statistically significant levels over groundwater protection standards for the constituents listed in appendix IV of this part as required by § 257.95.

(iv) No later than January 31 of the year after the groundwater monitoring system is established, prepare the initial groundwater monitoring and corrective action report as set forth in § 257.90(e).

(5) *Closure and post-closure care.* The owner or operator of the legacy CCR surface impoundment must:

(i) No later than 12 months after the date the final rule is effective, prepare an initial written closure plan as set forth in § 257.102(b); and

(ii) No later than 12 months after the date the final rule is effective, prepare an initial written post-closure care plan as set forth in § 257.104(d).

■ 19. Amend § 257.101 by adding paragraphs (e) and (f) to read as follows:

§ 257.101 Closure or retrofit of CCR units and CCR management units.

* * * * *

(e) The owner or operator of a legacy CCR surface impoundment is subject to the requirements of paragraphs (e)(1) and (2) of this section.

(1) No later than 12 months after the date the final rule is effective, an owner or operator of a legacy CCR surface impoundment must initiate the closure of the legacy CCR surface impoundment in accordance with the requirements of § 257.102.

(2) An owner or operator of a legacy CCR surface impoundment that closes in accordance with paragraph (e)(1) of this section must include a statement in the notification required under § 257.102(g) that the legacy CCR surface impoundment is closing under the requirement of paragraph (e)(1) of this section.

(f) The owner or operator of a CCR management unit is subject to the requirements of paragraphs (f)(1) and (2) of this section.

(1) No later than 12 months after the date the final rule is effective, an owner or operator of a CCR management unit must initiate the closure of the CCR management unit in accordance with the requirements of § 257.102.

(2) An owner or operator of a CCR management unit that closes in accordance with paragraph (f)(1) of this section must include a statement in the notification required under § 257.102(g) that the CCR management unit is closing under the requirements of paragraph (f)(1) of this section.

■ 20. Amend § 257.102 by:

■ a. Revising paragraphs (a), (b)(1), and (b)(2)(iii);

■ b. Adding paragraph (b)(2)(iv);

■ c. Revising paragraphs (b)(3)(ii)(A), (b)(3)(iii), (b)(4), (c), (d)(1) introductory text, (d)(1)(iv), (d)(2) introductory text, (d)(3) introductory text, (d)(3)(i)(B), (d)(3)(iii), (e) introductory text, and (f)(1) introductory text;

■ d. Adding paragraph (f)(1)(iii); and

■ e. Revising paragraphs (f)(2)(i) introductory text, (f)(2)(i)(B), and (C);

■ f. Adding paragraphs (f)(2)(ii)(D) and (E); and

■ g. Revising paragraphs (f)(2)(iii), (f)(3), (g), (h), (i)(1), (i)(2)(i), (i)(4), and (j).

The revisions and additions read as follows:

§ 257.102 Criteria for conducting the closure or retrofit of CCR units and closure of CCR management units.

(a) Closure of a CCR landfill, CCR surface impoundment, any lateral expansion of a CCR unit, or a CCR management unit must be completed either by leaving the CCR in place and installing a final cover system or through removal of the CCR and decontamination of the CCR unit or CCR management unit, as described in paragraphs (b) through (j) of this section. Retrofit of a CCR surface impoundment must be completed in accordance with the requirements in paragraph (k) of this section.

(b) * * *

(1) *Content of the plan.* The owner or operator of a CCR unit or a CCR management unit must prepare a written closure plan that describes the steps necessary to close the CCR unit or the CCR management unit at any point during the active life of the CCR unit or CCR management unit consistent with recognized and generally accepted good engineering practices. The written closure plan must include, at a minimum, the information specified in paragraphs (b)(1)(i) through (vi) of this section.

(i) A narrative description of how the CCR unit or CCR management unit will be closed in accordance with this section.

(ii) If closure of the CCR unit or CCR management unit will be accomplished through removal of CCR from the CCR unit or CCR management unit, a description of the procedures to remove the CCR and decontaminate the CCR unit or CCR management unit in accordance with paragraph (c) of this section.

(iii) If closure of the CCR unit or CCR management unit will be accomplished by leaving CCR in place, a description of the final cover system, designed in accordance with paragraph (d) of this section, and the methods and procedures to be used to install the final cover. The closure plan must also discuss how the final cover system will achieve the performance standards specified in paragraph (d) of this section.

(iv) An estimate of the maximum inventory of CCR ever on-site over the active life of the CCR unit or CCR management unit.

(v) An estimate of the largest area of the CCR unit or CCR management unit ever requiring a final cover as required by paragraph (d) of this section at any time during the CCR unit's active life.

(vi) A schedule for completing all activities necessary to satisfy the closure criteria in this section, including an estimate of the year in which all closure activities for the CCR unit or CCR management unit will be completed. The schedule should provide sufficient information to describe the sequential steps that will be taken to close the CCR unit or CCR management unit, including identification of major milestones such as coordinating with and obtaining necessary approvals and permits from other agencies, the dewatering and stabilization phases of CCR surface impoundment or CCR management unit closure, or installation of the final cover system, and the estimated timeframes to complete each step or phase of CCR unit or CCR management unit closure. When preparing the written closure plan, if the owner or operator of a CCR unit or CCR management unit estimates that the time required to complete closure will exceed the timeframes specified in paragraph (f)(1) of this section, the written closure plan must include the site-specific information, factors and considerations that would support any time extension sought under paragraph (f)(2) of this section.

(2) * * *

(iii) *CCR management units.* No later than 12 months after effective date of the final rule, the owner or operator of the CCR management unit must prepare an initial written closure plan consistent with the requirements specified in paragraph (b)(1) of this section.

(iv) The owner or operator has completed the written closure plan when the plan, including the certification required by paragraph (b)(4) of this section, has been placed in the facility's operating record as required by § 257.105(i)(4).

(3) * * *

(ii) * * *

(A) There is a change in the operation of the CCR unit or CCR management unit that would substantially affect the written closure plan in effect; or

* * * * *

(iii) The owner or operator must amend the closure plan at least 60 days prior to a planned change in the operation of the facility, CCR unit, or CCR management unit or no later than 60 days after an unanticipated event requires the need to revise an existing written closure plan. If a written closure plan is revised after closure activities have commenced for a CCR unit or a CCR management unit, the owner or operator must amend the current closure plan no later than 30 days following the triggering event.

(4) The owner or operator of the CCR unit or the CCR management unit must obtain a written certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority that the initial and any amendment of the written closure plan meets the requirements of this section.

(c) *Closure by removal of CCR.* An owner or operator may elect to close a CCR unit or a CCR management unit by removing and decontaminating all areas affected by releases from the CCR unit or the CCR management unit. CCR removal and decontamination of the CCR unit or CCR management unit are complete when constituent concentrations throughout the CCR unit or the CCR management unit and any areas affected by releases from the CCR unit or CCR management unit have been removed and groundwater monitoring concentrations do not exceed the groundwater protection standard established pursuant to § 257.95(h) for constituents listed in appendix IV to this part.

(d) * * *

(1) *General performance standard.* The owner or operator of a CCR unit or CCR management unit must ensure that, at a minimum, the CCR unit or CCR management unit is closed in a manner that will:

* * * * *

(iv) Minimize the need for further maintenance of the CCR unit or the CCR management unit; and

* * * * *

(2) *Drainage and stabilization of CCR units and CCR management units.* The owner or operator of any CCR unit or CCR management unit must meet the requirements of paragraphs (d)(2)(i) and (ii) of this section prior to installing the final cover system required under paragraph (d)(3) of this section.

* * * * *

(3) *Final cover system.* If a CCR unit or CCR management unit is closed by leaving CCR in place, the owner or operator must install a final cover system that is designed to minimize infiltration and erosion, and at a minimum, meets the requirements of paragraph (d)(3)(i) of this section, or the requirements of the alternative final cover system specified in paragraph (d)(3)(ii) of this section.

(i) * * *

(B) The infiltration of liquids through the closed CCR unit or CCR management unit must be minimized by the use of an infiltration layer that contains a minimum of 18 inches of earthen material.

* * * * *

(iii) The owner or operator of the CCR unit or the CCR management unit must obtain a written certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority that the design of the final cover system meets the requirements of this section.

(e) *Initiation of closure activities.* Except as provided for in paragraph (e)(4) of this section and § 257.103, the owner or operator of a CCR unit must commence closure of the CCR unit no later than the applicable timeframes specified in either paragraph (e)(1) or (2) of this section. CCR management units are subject to the requirements of paragraph (e)(3) of this section.

* * * * *

(f) * * *

(1) Except as provided for in paragraph (f)(2) of this section, the owner or operator must complete closure of the CCR unit or the CCR management unit:

* * * * *

(iii) For CCR management units, within five years of commencing closure activities.

(2) * * *

(i) *Extensions of closure timeframes.* The timeframes for completing closure of a CCR unit or a CCR management unit specified under paragraphs (f)(1) of this section may be extended if the owner or operator can demonstrate that it was not feasible to complete closure of the CCR unit or the CCR management unit within the required timeframes due to factors beyond the facility's control. If the owner or operator is seeking a time extension beyond the time specified in the written closure plan as required by paragraph (b)(1) of this section, the demonstration must include a narrative discussion providing the basis for additional time beyond that specified in the closure plan. The owner or operator must place each completed demonstration, if more than one time extension is sought, in the facility's operating record as required by § 257.105(i)(6) prior to the end of any two-year period. Factors that may support such a demonstration include:

* * * * *

(B) Time required to dewater a surface impoundment or a CCR management unit due to the volume of CCR contained in the CCR unit or the characteristics of the CCR in the unit;

(C) The geology and terrain surrounding the CCR unit or the CCR management unit will affect the amount of material needed to close the CCR unit or the CCR management unit; or

* * * * *

(ii) * * *

(D) CCR management units of 40 acres or smaller may extend the time to complete closure by no longer than two years.

(E) CCR management units larger than 40 acres may extend the timeframe to complete closure of the CCR management unit multiple times, in two-year increments. For each two-year extension sought, the owner or operator must substantiate the factual circumstances demonstrating the need for the extension. No more than a total of five two-year extensions may be obtained for any CCR management unit.

(iii) In order to obtain additional time extension(s) to complete closure of a CCR unit or a CCR management unit beyond the times provided by paragraph (f)(1) of this section, the owner or operator of the CCR unit or the CCR management unit must include with the demonstration required by paragraph (f)(2)(i) of this section the following statement signed by the owner or operator or an authorized representative:

> I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(3) Upon completion, the owner or operator of the CCR unit or the CCR management unit must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the

permitting authority verifying that closure has been completed in accordance with the closure plan specified in paragraph (b) of this section and the requirements of this section.

(g) No later than the date the owner or operator initiates closure of a CCR unit or CCR management unit, the owner or operator must prepare a notification of intent to close a CCR unit or CCR management unit. The notification must include the certification by a qualified professional engineer or the approval from the Participating State Director or the approval from EPA where EPA is the permitting authority for the design of the final cover system as required by § 257.102(d)(3)(iii), if applicable. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by § 257.105(i)(7).

(h) Within 30 days of completion of closure of the CCR unit or CCR management unit, the owner or operator must prepare a notification of closure of a CCR unit or CCR management unit. The notification must include the certification by a qualified professional engineer or the approval from the Participating State Director or the approval from EPA where EPA is the permitting authority as required by § 257.102(f)(3). The owner or operator has completed the notification when it has been placed in the facility's operating record as required by § 257.105(i)(8).

(i) * * *

(1) Except as provided by paragraph (i)(4) of this section, following closure of a CCR unit or CCR management unit, the owner or operator must record a notation on the deed to the property, or some other instrument that is normally examined during title search.

(2) * * *

(i) The land has been used as a CCR unit or CCR management unit; and

* * * * *

(4) An owner or operator that closes a CCR unit or CCR management unit in accordance with paragraph (c) of this section is not subject to the requirements of paragraphs (i)(1) through (3) of this section.

(j) The owner or operator of the CCR unit or CCR management unit must comply with the closure recordkeeping requirements specified in § 257.105(i), the closure notification requirements specified in § 257.106(i), and the closure internet requirements specified in § 257.107(i).

* * * * *

■ 21. Amend § 257.104 by revising paragraphs (a), (b) introductory text, (b)(2), (c), (d)(1), (2), (d)(3)(ii)(A), (d)(3)(iii), (d)(4), (e), and (f) to read as follows:

§ 257.104 Post-closure care requirements.

(a) *Applicability.* (1) Except as provided by paragraph (a)(2) of this section, § 257.104 applies to the owners or operators of CCR landfills, CCR surface impoundments, all lateral expansions of CCR units, and CCR management units that are subject to the closure criteria under § 257.102.

(2) An owner or operator of a CCR unit or a CCR management unit that elects to close a CCR unit or a CCR management unit by removing CCR as provided by § 257.102(c) is not subject to the post-closure care criteria under this section.

(b) *Post-closure care maintenance requirements.* Following closure of the CCR unit or the CCR management unit, the owner or operator must conduct post-closure care for the CCR unit or the CCR management unit, which must consist of at least the following:

* * * * *

(2) If the CCR unit or the CCR management unit is subject to the design criteria under § 257.70, maintaining the integrity and effectiveness of the leachate collection and removal system and operating the leachate collection and removal system in accordance with the requirements of § 257.70; and

* * * * *

(c) *Post-closure care period.* (1) Except as provided by paragraph (c)(2) of this section, the owner or operator of the CCR unit or the CCR management unit must conduct post-closure care for 30 years.

(2) If at the end of the post-closure care period the owner or operator of the CCR unit or the CCR management unit is operating under assessment monitoring in accordance with § 257.95, the owner or operator must continue to conduct post-closure care until the owner or operator returns to detection monitoring in accordance with § 257.95.

(d) * * *

(1) *Content of the plan.* The owner or operator of a CCR unit or a CCR management unit must prepare a written post-closure plan that includes, at a minimum, the information specified in paragraphs (d)(1)(i) through (iii) of this section.

(i) A description of the monitoring and maintenance activities required in paragraph (b) of this section for the CCR unit or the CCR management unit, and the frequency at which these activities will be performed;

(ii) The name, address, telephone number, and email address of the person or office to contact about the facility during the post-closure care period; and

(iii) A description of the planned uses of the property during the post-closure period. Post-closure use of the property shall not disturb the integrity of the final cover, liner(s), or any other component of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in this subpart. Any other disturbance is allowed if the owner or operator of the CCR unit or the CCR management unit demonstrates that disturbance of the final cover, liner, or other component of the containment system, including any removal of CCR, will not increase the potential threat to human health or the environment. The demonstration must be certified by a qualified professional engineer or approved by the Participating State Director or approved from EPA where EPA is the permitting authority, and notification shall be provided to the State Director that the demonstration has been placed in the operating record and on the owners or operator's publicly accessible internet site.

(2) *Deadline to prepare the initial written post-closure plan*—(i) *Existing CCR landfills and existing CCR surface impoundments.* No later than October 17, 2016, the owner or operator of the CCR unit must prepare an initial written post-closure plan consistent with the requirements specified in paragraph (d)(1) of this section.

(ii) *New CCR landfills, new CCR surface impoundments, and any lateral expansion of a CCR unit.* No later than the date of the initial receipt of CCR in the CCR unit, the owner or operator must prepare an initial written post-closure plan consistent with the requirements specified in paragraph (d)(1) of this section.

(iii) *CCR Management Units.* No later than 12 months after effective date of the final rule, the owner or operator of a CCR management unit must prepare an initial written post-closure care plan as set forth in paragraph (d)(1) of this section.

(iv) The owner or operator has completed the written post-closure plan when the plan, including the certification required by paragraph (d)(4) of this section, has been placed in the facility's operating record as required by § 257.105(i)(4).

(3) * * *

(ii) * * *

(A) There is a change in the operation of the CCR unit or the CCR management unit that would substantially affect the written post-closure plan in effect; or

* * * * *

(iii) The owner or operator must amend the written post-closure plan at least 60 days prior to a planned change in the operation of the facility or CCR unit, or CCR management unit, or no later than 60 days after an unanticipated event requires the need to revise an existing written post-closure plan. If a written post-closure plan is revised after post-closure activities have commenced for a CCR unit or a CCR management unit, the owner or operator must amend the written post-closure plan no later than 30 days following the triggering event.

(4) The owner or operator of the CCR unit or the CCR management unit must obtain a written certification from a qualified professional engineer or an approval from the Participating State Director or an approval from EPA where EPA is the permitting authority that the initial and any amendment of the written post-closure plan meets the requirements of this section.

(e) Notification of completion of post-closure care period. No later than 60 days following the completion of the post-closure care period, the owner or operator of the CCR unit or the CCR management unit must prepare a notification verifying that post-closure care has been completed. The notification must include the certification by a qualified professional engineer or the approval from the Participating State Director or the approval from EPA where EPA is the permitting authority verifying that post-closure care has been completed in accordance with the closure plan specified in paragraph (d) of this section and the requirements of this section. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by § 257.105(i)(13).

(f) The owner or operator of the CCR unit or the CCR management unit must comply with the recordkeeping requirements specified in § 257.105(i), the notification requirements specified in § 257.106(i), and the internet requirements specified in § 257.107(i).

■ 22. Amend § 257.105 by:

■ a. Revising paragraphs (a), (b), (c), (d) and (f) introductory text;

■ b. Adding paragraph (f)(25);

■ c. Revising paragraphs (g) introductory text, (h) introductory text, (i) introductory text, (i)(7), and (8): and

■ d. Adding paragraph (k).

The revisions and additions read as follows:

§ 257.105 Recordkeeping requirements.

(a) *Operating Record.* Each owner or operator of a CCR unit or CCR management unit subject to the requirements of this subpart must maintain files of all information required by this section in a written operating record at their facility.

(b) *Document Retention.* Unless specified otherwise, each file must be retained for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, record, or study.

(c) *Recordkeeping for multiple CCR units or CCR management units.* An owner or operator of more than one CCR unit or CCR management unit subject to the provisions of this subpart may comply with the requirements of this section in one recordkeeping system provided the system identifies each file by the name of each CCR unit. The files may be maintained on microfilm, on a computer, on computer disks, on a storage system accessible by a computer, on magnetic tape disks, or on microfiche.

(d) *State Director and/or appropriate Tribal authority notification.* The owner or operator of a CCR unit or CCR management unit must submit to the State Director and/or appropriate Tribal authority any demonstration or documentation required by this subpart, if requested, when such information is not otherwise available on the owner or operator's publicly accessible internet site.

* * * * *

(f) *Design criteria.* The owner or operator of a CCR unit or CCR management unit subject to this subpart must place the following information, as it becomes available, in the facility's operating record:

* * * * *

(25) The Facility Evaluation Report as required by § 257.75(c).

(g) *Operating criteria.* The owner or operator of a CCR unit or CCR management unit subject to this subpart must place the following information, as it becomes available, in the facility's operating record:

* * * * *

(h) *Groundwater monitoring and corrective action.* The owner or operator of a CCR unit or CCR management unit subject to this subpart must place the following information, as it becomes available, in the facility's operating record:

* * * * *

(i) *Closure and post-closure care.* The owner or operator of a CCR unit or CCR management unit subject to this subpart must place the following information, as it becomes available, in the facility's operating record:

* * * * *

(7) The notification of intent to close a CCR unit or CCR management unit as required by § 257.102(g).

(8) The notification of completion of closure of a CCR unit or CCR management unit as required by § 257.102(h).

* * * * *

(k) *Legacy CCR surface impoundments.* In addition to the information specified in paragraphs (e) through (j) of this section, the owner or operator of a legacy CCR surface impoundment subject to this subpart must place the following information, as it becomes available, in the facility's operating record:

(1) The applicability documentation required by § 257.100(f)(1)(i).

(2) The completion of closure by removal certification as specified under § 257.100(f)(1)(ii).

■ 23. Amend § 257.106 by:

■ a. Revising paragraphs (a), (b), (c), (d), and (f) introductory text;

■ b. Adding paragraph (f)(24);

■ c. Revising paragraphs (g) introductory text, (h) introductory text, (h)(5), (i) introductory text, (i)(7), and (8); and

■ d. Adding paragraph (k).

The revisions and additions read as follows:

§ 257.106 Notification requirements.

(a) *Deadline to submit notification to the relevant State Director and/or appropriate Tribal authority.* The notifications required under paragraphs (e) through (i) of this section must be sent to the relevant State Director and/or appropriate Tribal authority before the close of business on the day the notification is required to be completed. For purposes of this section, *before the close of business* means the notification must be postmarked or sent by electronic mail (email). If a notification deadline falls on a weekend or federal holiday, the notification deadline is automatically extended to the next business day.

(b) *Notifications to Tribal authority.* If any CCR unit or CCR management unit is located in its entirety within Indian Country, the notifications of this section must be sent to the appropriate Tribal authority. If any CCR unit or CCR management unit is located in part within Indian Country, the notifications of this section must be sent both to the appropriate State Director and Tribal authority.

(c) *Combining notifications.* Notifications may be combined as long as the deadline requirement for each notification is met.

(d) *Notification deadline after placement in operating record.* Unless

otherwise required in this section, the notifications specified in this section must be sent to the State Director and/or appropriate Tribal authority within 30 days of placing in the operating record the information required by § 257.105.

* * * * *

(f) *Design criteria.* The owner or operator of a CCR unit or CCR management unit subject to this subpart must notify the State Director and/or appropriate Tribal authority when information has been placed in the operating record and on the owner or operator's publicly accessible internet site. The owner or operator must:

* * * * *

(24) Provide notification of the availability of the Facility Evaluation Report as specified by § 257.105(f)(25).

(g) *Operating criteria.* The owner or operator of a CCR unit or CCR management unit subject to this subpart must notify the State Director and/or appropriate Tribal authority when information has been placed in the operating record and on the owner or operator's publicly accessible internet site. The owner or operator must:

* * * * *

(h) *Groundwater monitoring and corrective action.* The owner or operator of a CCR unit or CCR management unit subject to this subpart must notify the State Director and/or appropriate Tribal authority when information has been placed in the operating record and on the owner or operator's publicly accessible internet site. The owner or operator must:

* * * * *

(5) Provide notification that the CCR unit or CCR management unit is returning to a detection monitoring program specified under § 257.105(h)(7).

* * * * *

(i) *Closure and post-closure care.* The owner or operator of a CCR unit or CCR management unit subject to this subpart must notify the State Director and/or appropriate Tribal authority when information has been placed in the operating record and on the owner or operator's publicly accessible internet site. The owner or operator must:

* * * * *

(7) Provide notification of intent to close a CCR unit or CCR management unit specified under § 257.105(i)(7).

(8) Provide notification of completion of closure of a CCR unit or CCR management unit specified under § 257.105(i)(8).

* * * * *

(k) *Legacy CCR surface impoundments.* In addition to the information specified in paragraphs (e) through (j) of this section, the owner or operator of a legacy CCR surface impoundment subject to this subpart must notify the State Director and/or appropriate Tribal authority when information has been placed in the operating record and on the owner or operator's publicly accessible internet site. The owner or operator must:

(1) Provide notification of the availability of the applicability documentation as specified under § 257.105(k)(1).

(2) Provide notification of the availability of the completion of closure by removal certification as specified under § 257.105(k)(2).

■ 24. Amend § 257.107 by:

■ a. In paragraph (a) adding a paragraph heading and revising the first sentence;

■ b. Revising paragraphs (b), (c), (d), and (f) introductory text;

■ c. Adding paragraph (f)(24);

■ d. Revising paragraphs (g) introductory text, (h) introductory text and (h)(5);

■ e. Revising paragraphs (i) introductory text, (i)(7), and (8); and

■ f. Adding paragraph (k).

The revisions and additions read as follows:

§ 257.107 Publicly accessible internet site requirements.

(a) *CCR website requirement.* Each owner or operator of a CCR unit or CCR management unit subject to the requirements of this subpart must maintain a publicly accessible internet site (CCR website) containing the information specified in this section.

* * *

(b) *CCR website for multiple units.* An owner or operator of more than one CCR unit or CCR management unit subject to the provisions of this subpart may comply with the requirements of this section by using the same CCR website for multiple CCR units or CCR management units provided the CCR website clearly delineates information by the name or identification number of each unit.

(c) *Document retention on a CCR website.* Unless otherwise required in this section, the information required to be posted to the CCR website must be made available to the public for at least five years following the date on which the information was first posted to the CCR website.

(d) *Website posting deadline after placement in operating record.* Unless otherwise required in this section, the information must be posted to the CCR website within 30 days of placing the pertinent information required by § 257.105 in the operating record.

* * * * *

(f) *Design criteria.* The owner or operator of a CCR unit or CCR management unit subject to this subpart must place the following information on the owner or operator's CCR website:

* * * * *

(24) The Facility Evaluation Report as specified under § 257.105(f)(25).

(g) *Operating criteria.* The owner or operator of a CCR unit or CCR management unit subject to this subpart must place the following information on the owner or operator's CCR website:

* * * * *

(h) *Groundwater monitoring and corrective action.* The owner or operator of a CCR unit or CCR management unit subject to this subpart must place the following information on the owner or operator's CCR website:

* * * * *

(5) The notification that the CCR unit or CCR management unit is returning to a detection monitoring program specified under § 257.105(h)(7).

* * * * *

(i) *Closure and post-closure care.* The owner or operator of a CCR unit or CCR management unit subject to this subpart must place the following information on the owner or operator's CCR website:

* * * * *

(7) The notification of intent to close a CCR unit or CCR management unit specified under § 257.105(i)(7).

(8) The notification of completion of closure of a CCR unit or CCR management unit specified under § 257.105(i)(8).

* * * * *

(k) *Legacy CCR surface impoundments.* In addition to the information specified in paragraphs (e) through (j) of this section, the owner or operator of a legacy CCR surface impoundment subject to this subpart must place the following information on the owner or operator's CCR website:

(1) The applicability documentation as specified under § 257.105(k)(1).

(2) The completion of closure by removal certification as specified under § 257.105(k)(2).

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