

REINHOLD ENVIRONMENTAL Ltd.



**2015 APC Round Table
& Expo Presentation**

July 13 & 14, 2015, in Atlanta, GA / Hosted by Southern Company

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They're here!

CCR Regulation Update

Mark Rokoff
National Practice Lead, CCP Management

07.14.2015

AECOM

Agenda

01 Overview/Applicability of the Rule

02 Surface Impoundments

03 Landfills

04 Beneficial Use

05 CCR Piles

06 Groundwater Monitoring Systems

07 Recordkeeping, Notifications, and Publicly Accessible Internet Site

08 Questions (and Answers) from the EPA

09 Suggestions to Establish a Program

01

Overview/Applicability of the Rule

Overview of The Final CCR Rule



01 Published Draft Rule June 2010



02 Prepublication of final CCR rule issued December 19, 2014



03 Final CCR rule published in the Federal Register
April 17, 2015

04 Final CCR rules will be effective 6 months after publication
October 19, 2015

Overview of The Final CCR Rule

Final CCR Rule

Preamble: Pages 1 (21302) to 167 (21467)

Final Rule: Pages 167 (21467) to 201 (21501)

Perspective from the EPA on the Preamble



*“The final definition makes **extremely** clear the impoundments that are covered by the rule, so an owner or operator will be able to **easily discern** whether a particular unit is a CCR surface impoundment.”* [Final CCR Rule, Page 57 (21357)]

Changes from Pre-Publication Version

1. Clarifying that only **coal** mines will be excluded from the definition of a coal ash landfill — **the regulatory text, as originally written, would have excluded all underground and surface mines**
2. Adding language to clarify coal ash surface impoundments could either **retrofit** with a composite liner or close — **the original version did not allow facilities the option to retrofit (just hinted to it in the preamble)**
3. Added language to clarify all groundwater results are to be posted to the CCR website
4. Revising paragraphs outlining requirements for facility owners when a deficiency or release from a coal ash unit is identified during an assessment or inspection
5. Deleting potentially confusing language for the time frames to complete closing surface impoundments
6. Revisions to clarify that lead does not have an MCL

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 18 2015

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

MEMORANDUM

SUBJECT: Correction of Inadvertent Errors in the Disposal of Coal Combustion Residuals from Electric Utilities (Tier 1; SAN 4470; RIN 2050-AE81)

FROM: Muthy Stanislaus (5101T) *Muthy Stanislaus*
Assistant Administrator

THRU: Joel Beauvais *Joel Beauvais*
Office of Policy (1886A)
Mary Kay Lynch *Mary Kay Lynch*
Office of General Counsel (2366A)

TO: Gina McCarthy (1101A)
Administrator

We recommend making six changes to the Coal Combustion Residuals Final Rule that was signed on December 19, 2014, but has not yet been published in the *Federal Register*. These changes insert regulatory text in instances in which it was inadvertently omitted from the final rule, make minor revisions to correct inadvertent errors, correct potentially confusing cross references, and clarify preamble language. This memorandum is submitted per OGC and OP guidance on changes to rule language after the rule has been signed by the Administrator but before it has been published in the *Federal Register*.¹

1. Insertion of regulatory language to clarify the requirement that a facility must post all groundwater monitoring results on the facility's publicly accessible internet site.

First, regulatory language needs to be inserted to conform the regulatory text with the preamble to require all groundwater monitoring results be posted on the facility's publicly accessible internet site. The preamble discussion is very clear that all groundwater monitoring data are to be made available on the publicly accessible internet site.

For example, on page 115 of the prepublication version of the preamble to the final rule:

It is more consistent with EPA's obligations under RCRA to put in place the additional protections that, based on the information currently available, are needed to protect health

¹ Memorandum from Ann Kloe, General Counsel, and Brian Mansik, Associate Administrator for the Office of Policy, Economics and Innovation, Changes to Rule Documents Prepared for the Administrator's Signature, July 25, 2016.

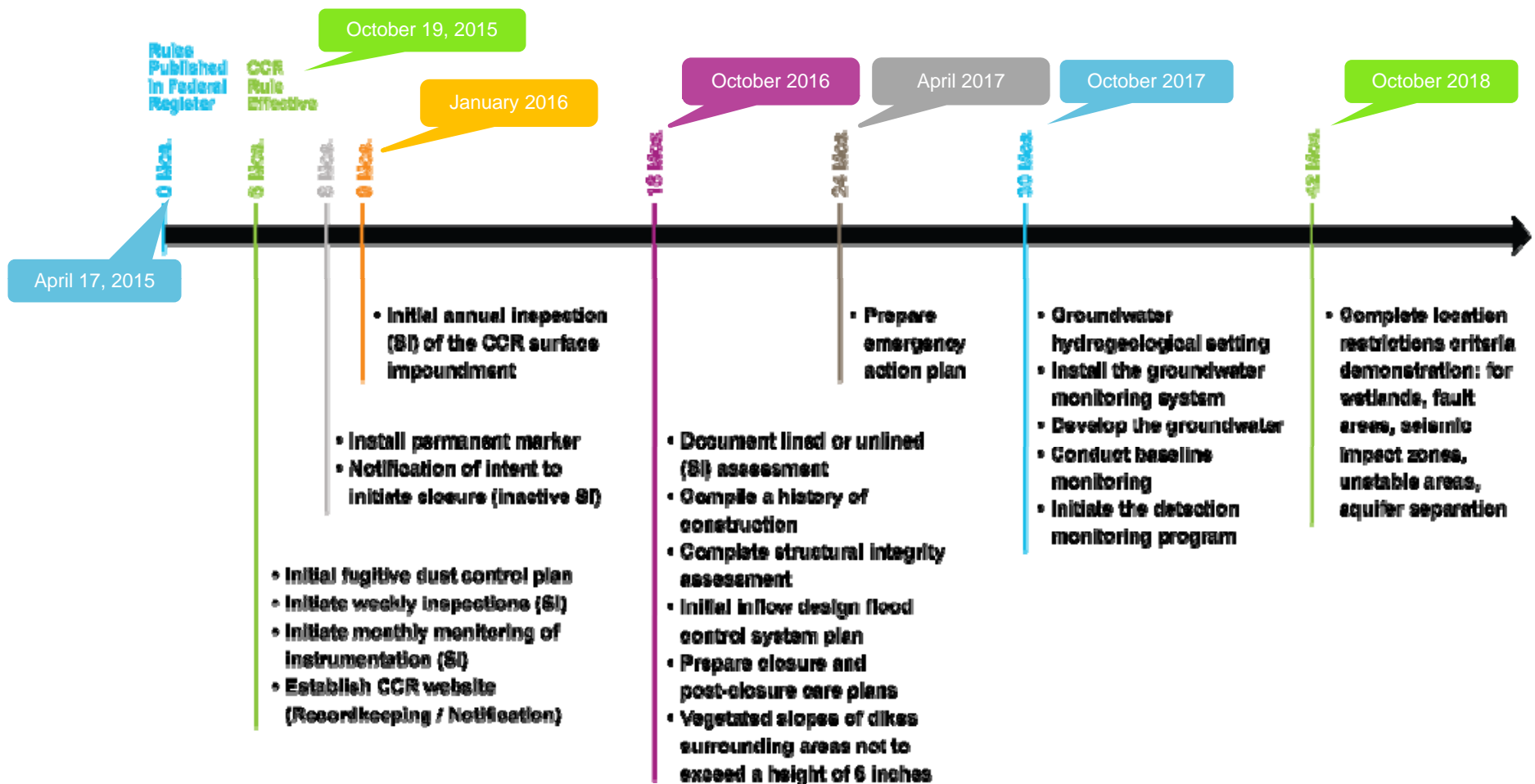
Compliance Deadlines

Requirement	Deadline to Comply	Description of Requirement
Location Restrictions (257.60-257.64)	October 17, 2018	- Complete demonstrations for placement above the uppermost aquifer, wetlands, fault areas, seismic impact zones, and unstable areas
Design Criteria (257.71)	October 17, 2016	- Document whether unit is lined or unlined
Structural Integrity (257.73)	December 17, 2015 October 17, 2016 April 17, 2017 April 17, 2017	- Install a permanent marker - Compile a history of construction - Complete initial assessments (hazard potential classification, structural stability, & safety factor) - Prepare emergency action plan
Air Criteria (257.80)	October 19, 2015	- Prepare a fugitive dust control plan
Run-on & Run-off Controls (257.82)	October 17, 2016	- Prepare an initial run-on and run-off control plan
Hydrologic and Hydraulic Capacity (257.82)	October 17, 2016	- Prepare initial inflow design flood control system plan

Compliance Deadlines

Requirement	Deadline to Comply	Description of Requirement
Inspections (257.83)	October 19, 2015 October 19, 2015 January 19, 2016	<ul style="list-style-type: none"> - Initiate weekly inspections of the CCR unit - Initiate monthly monitoring of instrumentation - Complete initial annual inspection of CCR unit
Groundwater Monitoring and Corrective Action (257.90-257.98)	October 17, 2017	<ul style="list-style-type: none"> - Install the groundwater monitoring system; develop the groundwater sampling & analysis program; initiate the detection monitoring program; and begin evaluating the groundwater monitoring data for statistically significant increases
Closure and Post-Closure Care (257.103-257.104)	October 17, 2016	<ul style="list-style-type: none"> - Prepare written closure and post-closure plans
Recordkeeping, Notification, and Publicly accessible website (257.105-257.107)	October 19, 2015	<ul style="list-style-type: none"> - Conduct required recordkeeping; Provide required notifications; Establish CCR Website

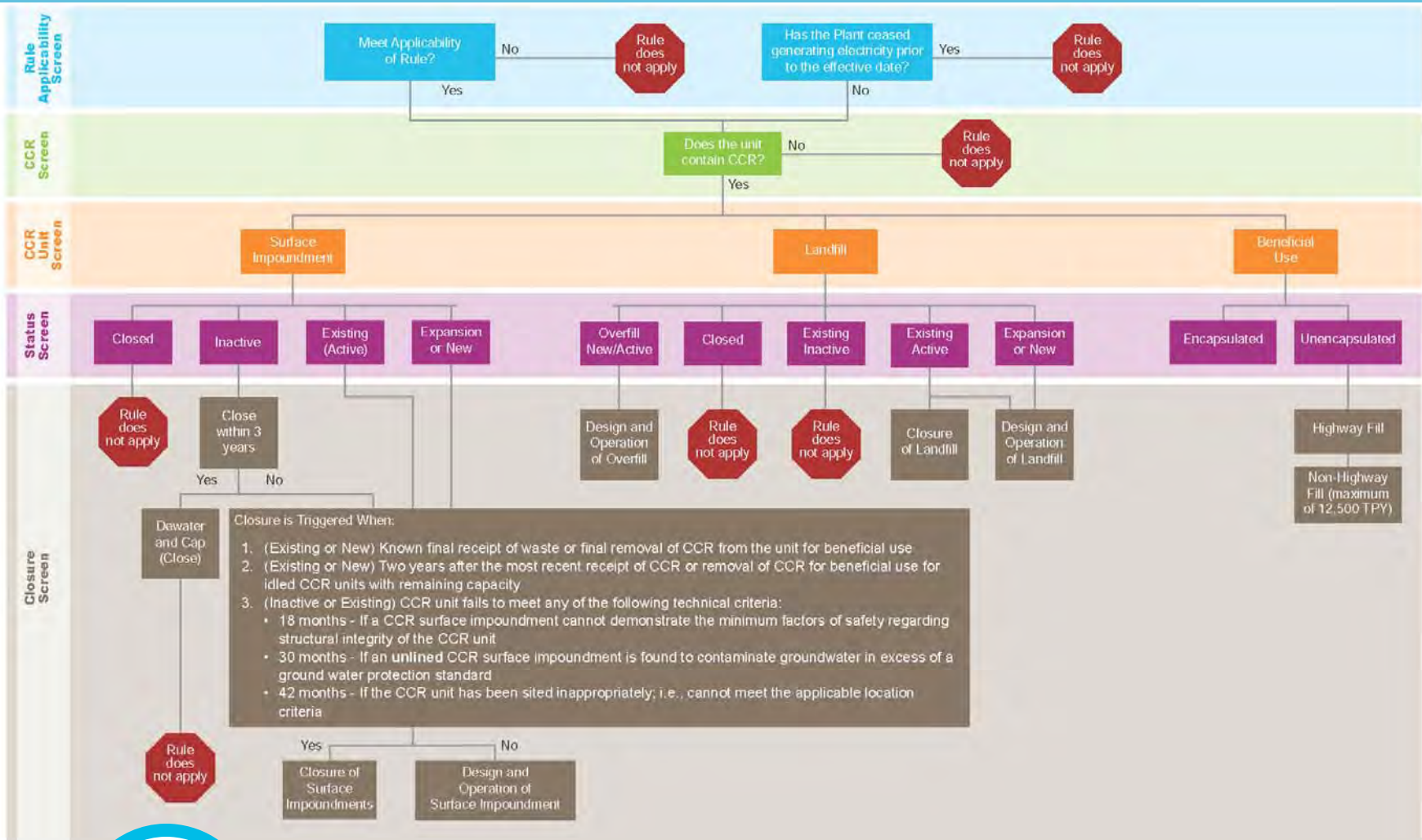
Implementation Timeline for Existing CCR Surface Impoundment



02

Surface Impoundments

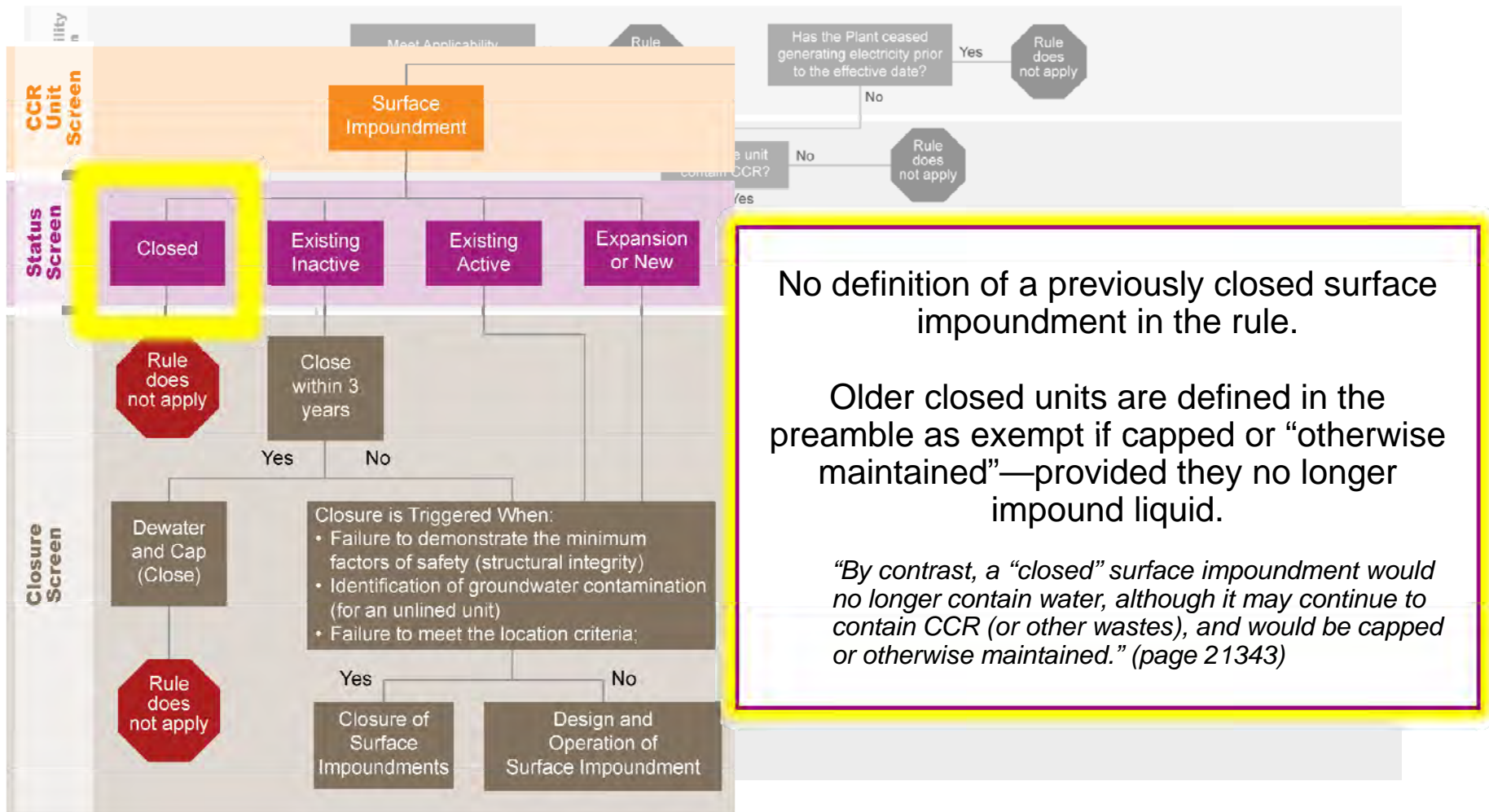
Rule Applicability Screen



On a pond by pond basis (landfill, pile, etc.), determine the approach to comply with the Rule and develop a plan to achieve implementation. This can start now.

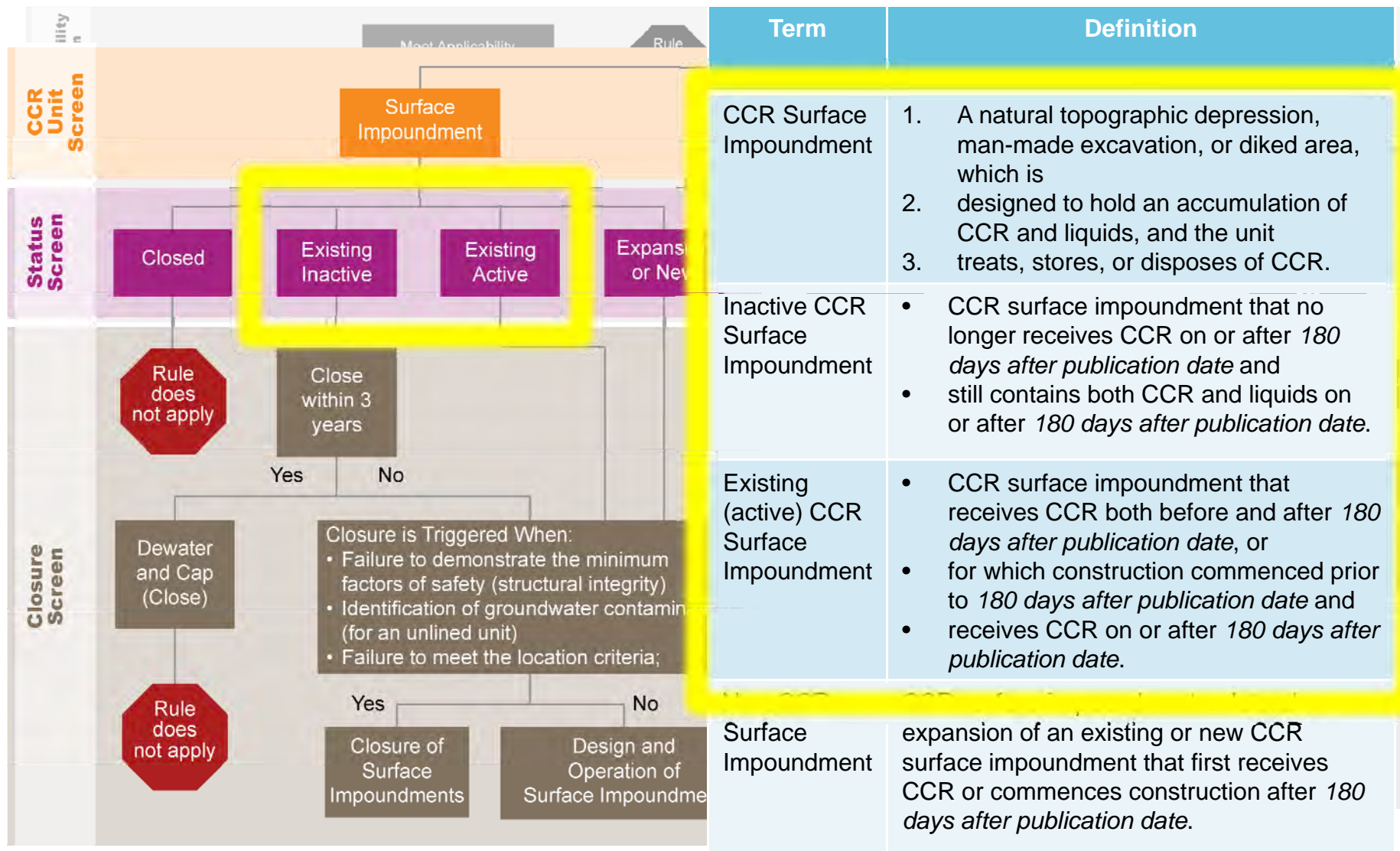
Existing Surface Impoundment

Unit, Status, and Closure Applicability Screens



Existing Surface Impoundment

Unit, Status, and Closure Applicability Screens



Existing Surface Impoundment

Is it a surface impoundment? Parking Lot Test

“If the walls or shell of the unit alone provide sufficient structural support to maintain the structural integrity of the unit under these conditions, the unit can be considered a tank.

Accordingly, if the unit is not capable of retaining its structural integrity without supporting earthen materials, it must be considered a surface impoundment.”



Existing Surface Impoundment

What is an inactive surface impoundment?

Term	Definition
Inactive CCR Surface Impoundment	<ul style="list-style-type: none">• CCR surface impoundment that no longer receives CCR on or after <i>October 14, 2015</i> and• still contains both CCR and liquids on or after <i>October 14, 2015</i>.

From the EPA (April 15)

“...If the unit [inactive surface impoundment] is:

- In the process of closure and no longer contains liquid on the effective date of the rule, and
- is maintained during the closure process so that it can no longer impound liquids,

Then the unit is **not an inactive CCR surface impoundment.**”

Existing Surface Impoundment

Closure of Inactive Surface Impoundment

If an existing impoundment receives no CCR on the “effective date” **AND**

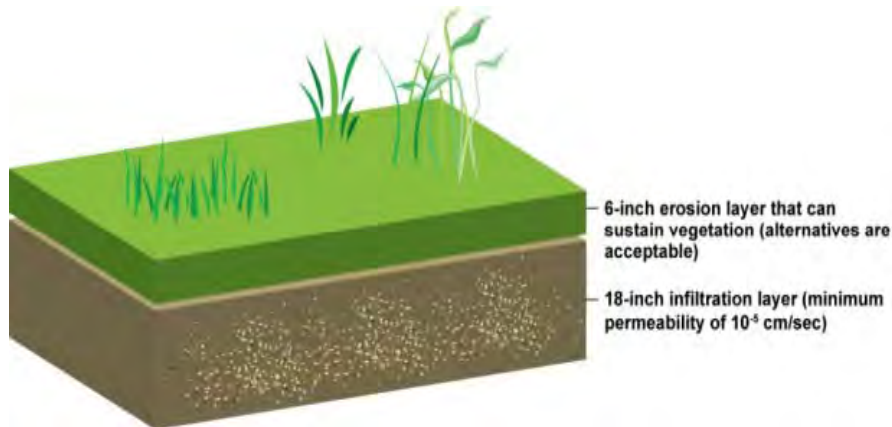
Completes dewatering and closure activities (in accordance with the final rule) within 3 years of publication date, **THEN**

It is not subject to CCR requirements

With the exception of:

- the air criteria for fugitive dust
- The inspection & monitoring requirements, and
- The record keeping requirements (including CCR website)

Notification of intent to initiate closure



Dewatering

- Eliminating free liquids by removing liquid wastes and solidifying the remaining wastes and waste residues
- Stabilizing remaining wastes sufficient to support the final cover system.

Closure in Place

Final cover must include 18-inch infiltration layer (minimum permeability 10^{-5} cm/sec) under a 6-inch erosion layer that can sustain vegetation (alternatives are acceptable)

Clean Closure

Remove all CCR from the unit and decontaminate all areas affected by releases from the impoundment, including the bottom liner, if applicable.

How Closure is Triggered for an Existing Impoundment?

- 01 Known final receipt of waste or final removal of CCR from the unit for beneficial use
- 02 Two years after the most recent receipt of CCR or removal of CCR for beneficial use for idled CCR units with remaining capacity
- 03 CCR unit fails to meet any of the following technical criteria:
 - 18 months - If a CCR surface impoundment cannot demonstrate the minimum factors of safety regarding structural integrity of the CCR unit.
 - 30 months - If an **unlined** CCR surface impoundment is found to contaminate groundwater in excess of a ground water protection standard; or
 - 42 months - If the CCR unit has been sited inappropriately; i.e., cannot meet the applicable location criteria;

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Assessment Condition	Safety Factor (minimum)	Comments
long-term, maximum storage pool loading condition	1.50	
maximum surcharge pool loading condition	1.40	
seismic condition	1.00	2% exceedance in 50 years
liquefaction condition	1.20	for dikes constructed of soils that have susceptibility to liquefaction

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Presence of Liner

- 18 months – document if impoundments include documented liner
- 3 acceptable alternatives that include at least 2 feet of material with a permeability not exceeding 10^{-7} cm/sec.

Liner Option	Description
Soil Liner	2 ft of soil ($\leq 10^{-7}$ cm/sec)
Composite Liner	30 mil geomembrane (GM) over 2 ft of soil ($\leq 10^{-7}$ cm/sec)
Alternate Liner	30 mil GM over lower component (flow rate = 2 ft of soil, $\leq 10^{-7}$ cm/sec)

- If impoundment liner meets criterion, groundwater impact will not trigger closure.

How Closure is Triggered for an Existing Impoundment?

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Presence of Liner

- 18 months – document if impoundments include documented liner
- 3 acceptable alternatives if no liner, with permeability not exceeding 10^{-7} cm/sec.

In Final CCR Rule, per Section 257.95(g)(5), an unlined CCR SI found to contaminate the groundwater must close or **retrofit**.

Liner Option

Soil Liner	Permeability $\leq 10^{-7}$ cm/sec
Composite Liner	30 mil geomembrane (GM) over 2 ft of soil ($\leq 10^{-7}$ cm/sec)
Alternate Liner	30 mil GM over lower component (flow rate = 2 ft of soil, $\leq 10^{-7}$ cm/sec)

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Location Restrictions

- 5 ft separation from uppermost aquifer (or seasonal high groundwater)
- Wetlands
- Fault areas
- Seismic impact zones
- Unstable areas

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Location Restrictions

- 5 ft separation from uppermost aquifer (or seasonal high groundwater)
- Wetlands
- Fault areas
- Seismic impact zones
- Unstable areas

In Final CCR Rule, per Section 257.52(b), there are three other criteria – (1) endangered species; (2) surface water; (3) floodplains.

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

Once Closure is Triggered...

1. Known final receipt of waste or final removal of CCR from the unit for beneficial use

2. Two years after the most recent receipt of CCR or removal of CCR for beneficial use for idled CCR units with remaining capacity

3. CCR unit fails to meet any of the following technical criteria:

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- 42 months - If the CCR unit has been sited inappropriately; i.e., cannot meet the applicable location criteria;

- Owner must initiate closure of the CCR unit within 30 days
- Note that final receipt of waste refers to
 - CCR or
 - any non-CCR wastestream

Once Closure is Triggered...

1. Known final receipt of waste or final removal of CCR from the unit for beneficial use

Owner must initiate closure of the CCR unit within 30 days

2. Two years after the most recent receipt of CCR or removal of CCR for beneficial use for idled CCR units with remaining capacity

Owner must initiate closure of the CCR unit within 2 years

3. CCR unit fails to meet any of the following technical criteria:

- 18 months - If a CCR surface impoundment cannot demonstrate the minimum factors of safety regarding structural integrity of the CCR unit.
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 - 42 months - If the CCR unit has been sited inappropriately; i.e., cannot meet the applicable location criteria;

2 year extensions are possible provided that there is a reasonable likelihood that the CCR unit will accept wastes in the foreseeable future or will remove CCR from the unit for the purpose of beneficial use

Once Closure is Triggered...

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Owner must initiate closure of the CCR unit within 30 days

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- 42 months - If the CCR unit has been sited inappropriately; i.e., cannot meet the applicable location criteria;

Owner must initiate closure of the CCR unit within 6 months

Once Closure is Triggered...

1. Known final receipt of waste or final removal of CCR from the unit for beneficial use

Owner must initiate closure of the CCR unit within 30 days

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Owner must initiate closure of the CCR unit within 6 months

Alternative Closure Requirements (extensions) are available if...alternate disposal capacity is not available

- Pond can remain in use up to 5 more years
- Owner continues its efforts to obtain additional capacity
- Owner complies with all other requirements
- Owner prepares Annual Progress Report

Once Closure is Triggered...

1. Known final receipt of waste or final removal of CCR from the unit for beneficial use
2. Two years after the most recent receipt of CCR or removal of CCR for beneficial use for idled CCR units with remaining capacity
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Extension for alternative disposal capacity does not apply if structural integrity FOS are not met.

the CCR unit within 30 days

Owner must initiate closure of the CCR unit within 2 years

Owner must initiate closure of the CCR unit within 6 months

Alternative closure requirements (extension not available if... alternative disposal capacity is not available)

- Pond cannot be used up to 5 more years
- Owner must make efforts to obtain additional capacity
- Owner complies with other requirements
- Owner prepares Annual Progress Report

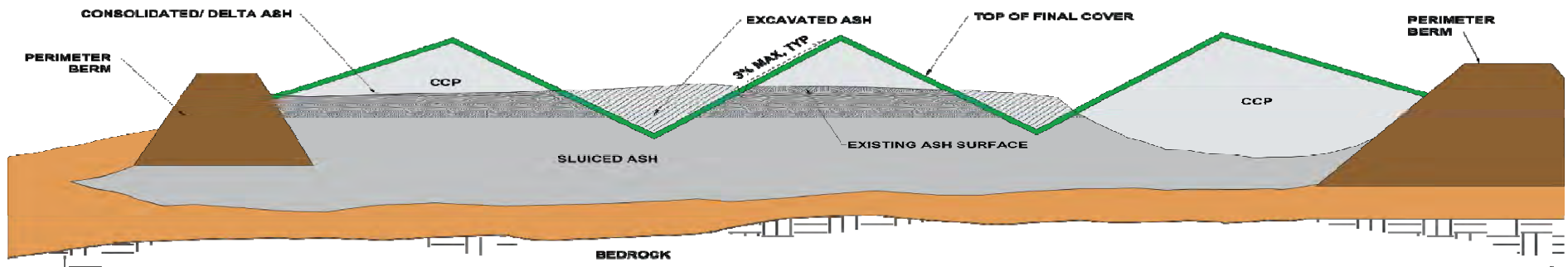
Closure Period of a Surface Impoundment

Initial Closure Period

5 years is allowed to complete impoundment closure

Extensions

- For Impoundments >40 acres → Up to 5, 2-year extensions possible
- For impoundments <40 acres → 1, 2-year extension is possible



Retrofitting Criteria

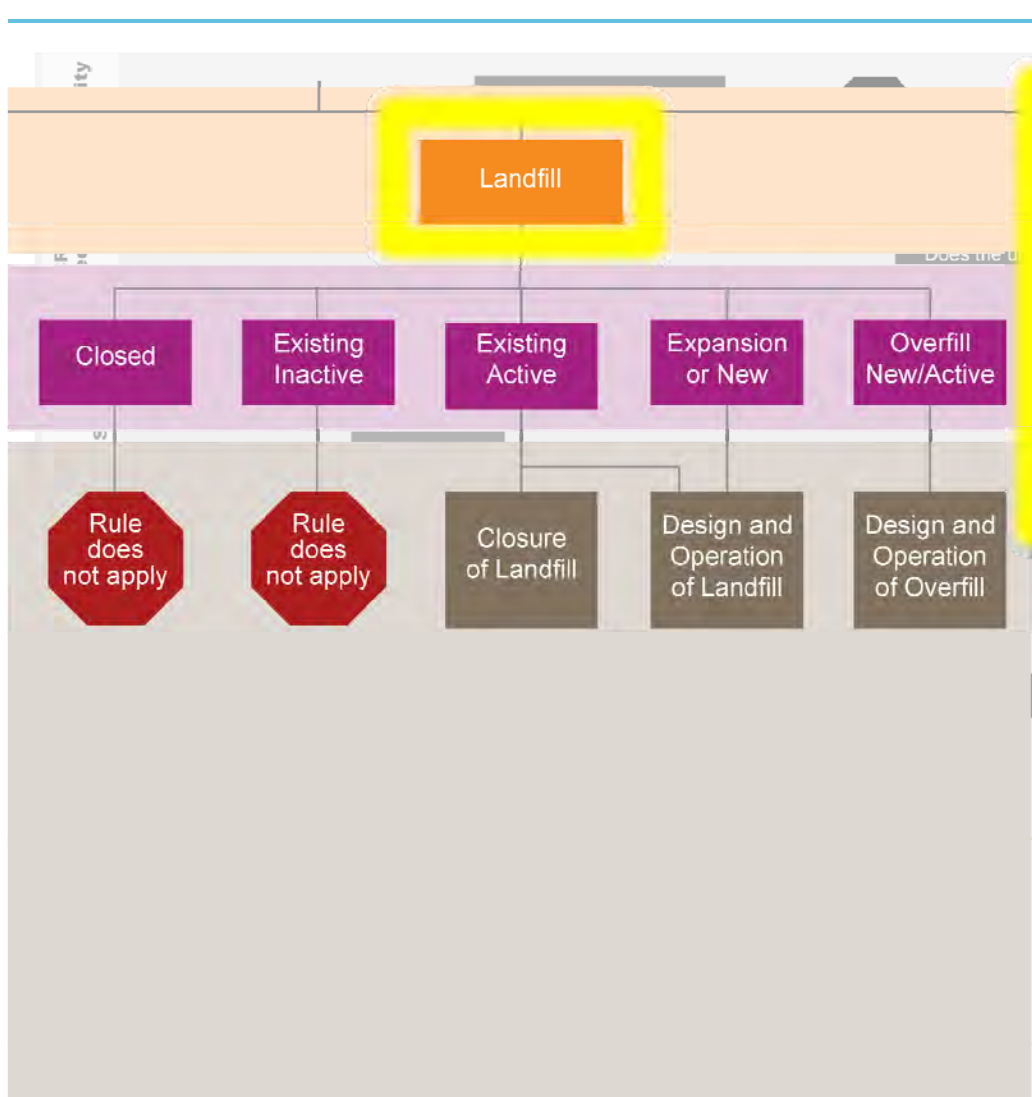
To retrofit an existing CCR surface impoundment, the owner or operator must:

- First remove all CCR, including any contaminated soils and sediments from the CCR unit; and
- Comply with the requirements in § 257.72 (Design criteria for new CCR surface impoundments and any lateral expansion of a CCR surface impoundment).
- A CCR surface impoundment undergoing a retrofit remains subject to all other requirements of this subpart, including the requirement to conduct any necessary corrective action.

03

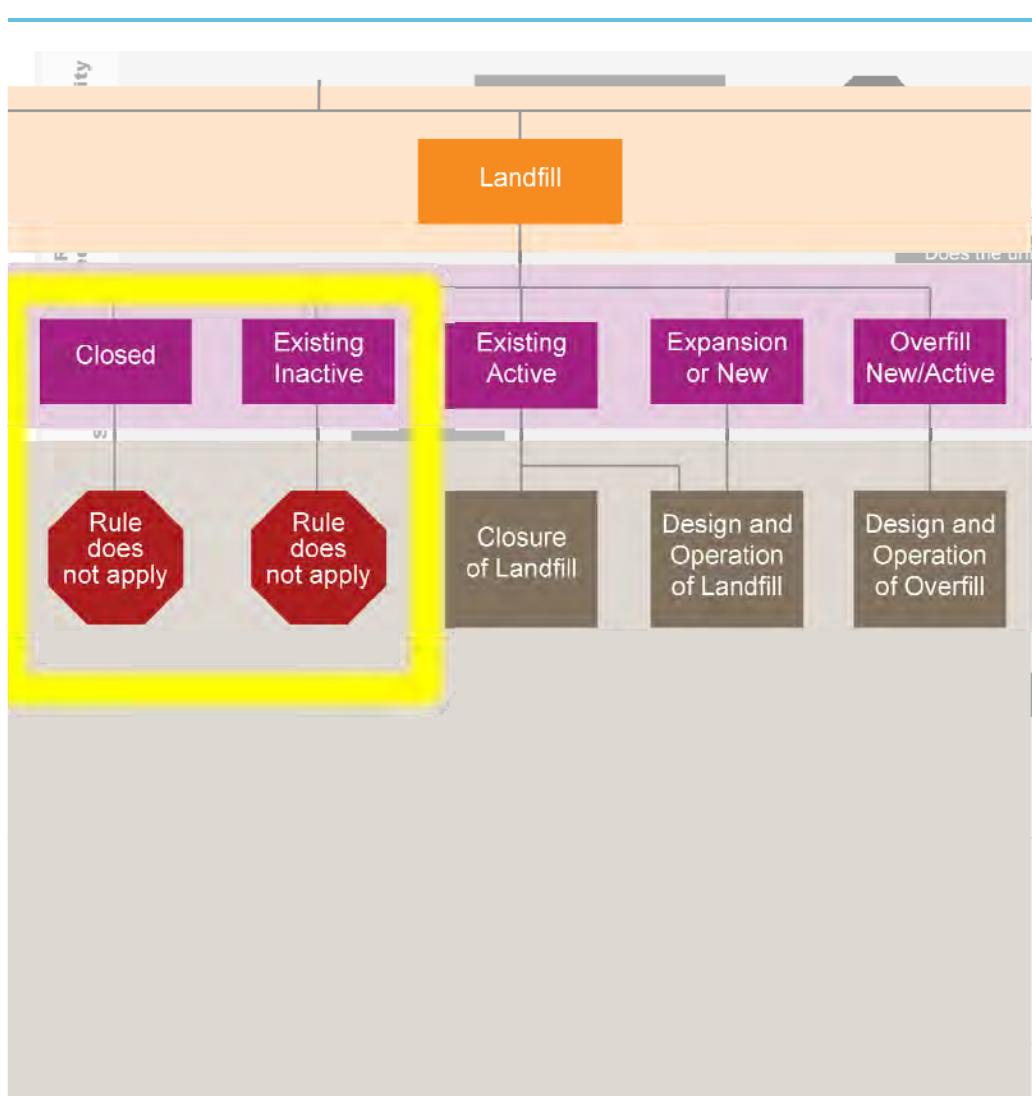
Landfills

Unit, Status, and Closure Applicability Screens



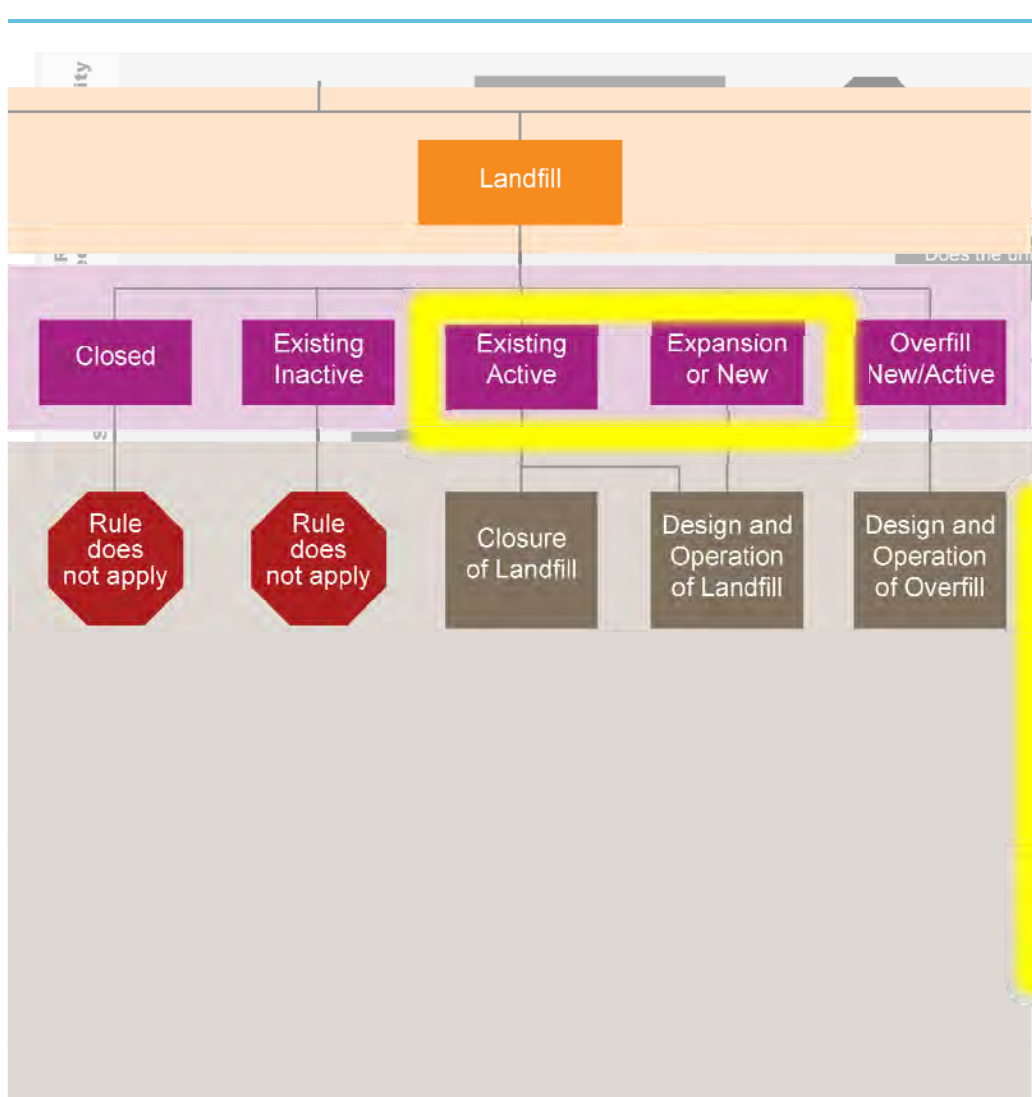
Term	Definition
CCR Landfill	<ol style="list-style-type: none"> 1. An area of land or an excavation the receives CCR and is not a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground or surface coal mine, or a cave. 2. Includes sand and gravel pits and quarries that receive CCR, CCR piles. 3. Any practice that does not meeting the definition of a beneficial use of CCR.
Existing (active) CCR Landfill	<ul style="list-style-type: none"> • CCR landfill that receives CCR both before and after <i>publication date</i>, or • for which construction commenced prior to <i>180 days after publication date</i> and • receives CCR on or after <i>180 days after publication date</i>.
New CCR Landfill	CCR landfill or lateral expansion of a CCR landfill that first receives CCR or commences construction after <i>180 days after publication date</i> .
Overfill	New CCR landfill constructed over a closed CCR surface impoundment.

Unit, Status, and Closure Applicability Screens



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Unit, Status, and Closure Applicability Screens



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New CCR Landfill	CCR landfill or lateral expansion of a CCR landfill that first receives CCR or commences construction after <i>180 days after publication date</i> .
Overfill	New CCR landfill constructed over a closed CCR surface impoundment.

How Closure is Triggered for an Existing Landfill?

- 01 Receives the known final receipt of waste, either CCR or any non-CCR waste stream; or removes the known final volume of CCR from the CCR unit for the purpose of beneficial use
- 02 Two years after the most recent receipt of CCR or removal of CCR for beneficial use for idled CCR units with remaining capacity
- 03 CCR unit fails to meet the following technical criteria:
 - 42 months - If the CCR unit cannot demonstrate that the CCR unit is located in a stable area; unless...
 - The owner or operator demonstrates that recognized and generally accepted engineering practices have been incorporated into the design of the CCR Landfill to achieve the integrity of the structural components of the CCR landfill will not be disrupted.

Once Closure is Triggered...

1. Receives the known final receipt of waste, either CCR or any non-CCR waste stream; or removes the known final volume of CCR from the CCR unit for the purpose of beneficial use

Owner must initiate closure of the CCR unit within 30 days

2. Two years after the most recent receipt of CCR or removal of CCR for beneficial use for idled CCR units with remaining capacity

3. CCR unit fails to meet the following technical criteria:

- 42 months - If the CCR unit cannot demonstrate that the CCR unit is located in a stable area; unless...

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2 year extensions are possible provided that there is a reasonable likelihood that the CCR unit will accept wastes in the foreseeable future or will remove CCR from the unit for the purpose of beneficial use

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- 42 months - If the CCR unit cannot demonstrate that the CCR unit is located in a stable area; unless...

Owner must initiate closure of the CCR unit within 6 months

Alternative Closure Requirements (extensions) are available if...alternate disposal capacity is not available

- Landfill can remain in use up to 5 more years
- Owner continues its efforts to obtain additional capacity
- Owner complies with all other requirements
- Owner prepares Annual Progress Report

Closure Period of a Landfill

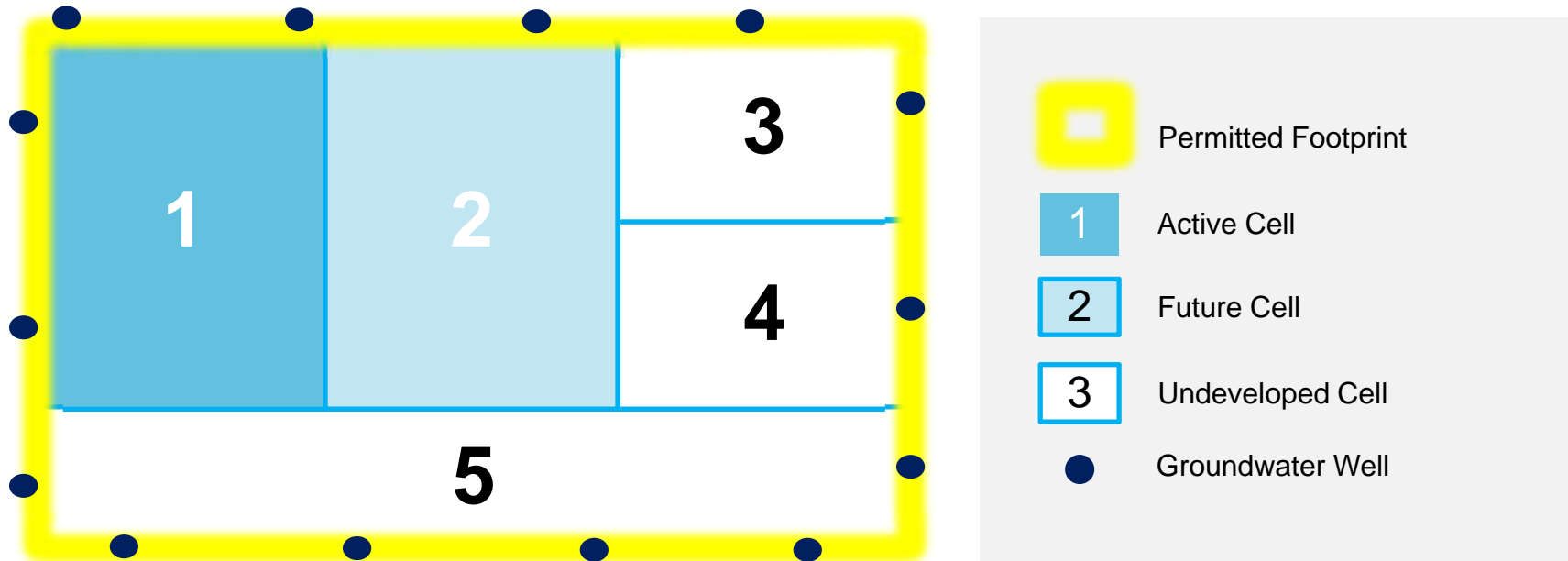
Initial Closure Period:

6 months is allowed to complete landfill closure (assumes phased closure)

Extensions:

For landfills not triggered by failure to meet location restrictions
→ Up to 2, 1-year extensions possible

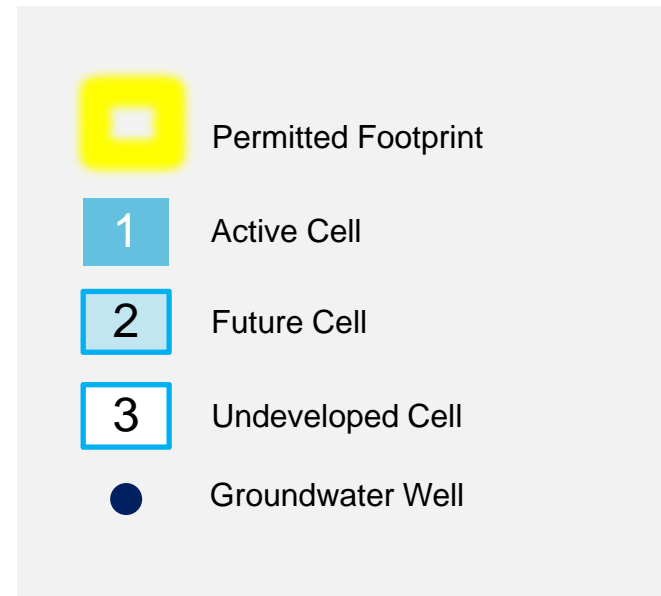
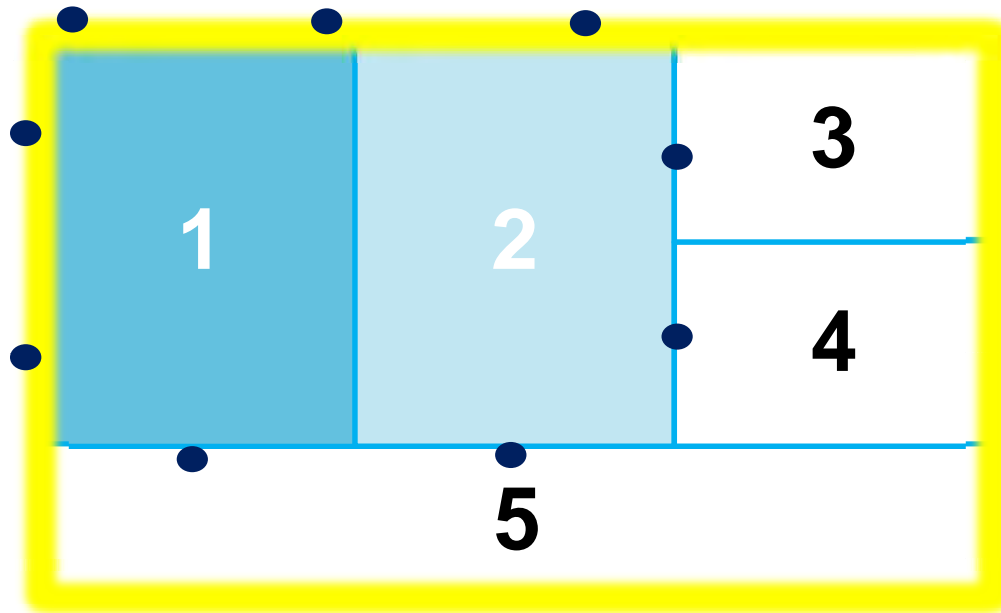
Existing Landfill – What is existing?



CCR Landfill: Also refer to the preamble page 200 (specifically 202-203)

- Existing CCR landfill means a CCR landfill that receives CCR both before and after effective date, or for which construction commenced prior to effective date **and** receives CCR on or after effective date.
- A CCR landfill has commenced construction if the owner or operator has obtained the federal, state, and local approvals **or** permits necessary to begin physical construction **and** a continuous on-site, physical construction program had begun prior to effective date.

Existing Landfill – What is existing?



- Having a permit to install does not grandfather an entire footprint in as existing
- Each phase needs to receive CCR or have construction initiated by the effective date
- Move groundwater wells to edge of active limits of waste
- Can the future cell become part of the existing landfill?
- Undeveloped cells are considered lateral expansions

04

Beneficial Use

Beneficial Use Criteria

Beneficial use of CCR means the CCR meet all of the following conditions:

- 01 The CCR must provide a functional benefit;
- 02 The CCR must substitute for the use of a virgin material, conserving natural resources that would otherwise need to be obtained through practices, such as extraction;
- 03 The use of the CCR must meet relevant product specifications, regulatory standards or design standards when available, and when such standards are not available, the CCR is not used in excess quantities; and
- 04 When unencapsulated use of CCR involving placement on the land of 12,400 tons or more in non-roadway applications, the user must demonstrate and keep records, and provide such documentation upon request, that environmental releases to groundwater, surface water, soil and air are comparable to or lower than those from analogous products made without CCR, or that environmental releases to groundwater, surface water, soil and air will be at or below relevant regulatory and health-based benchmarks for human and ecological receptors during use.

Beneficial Use Criteria

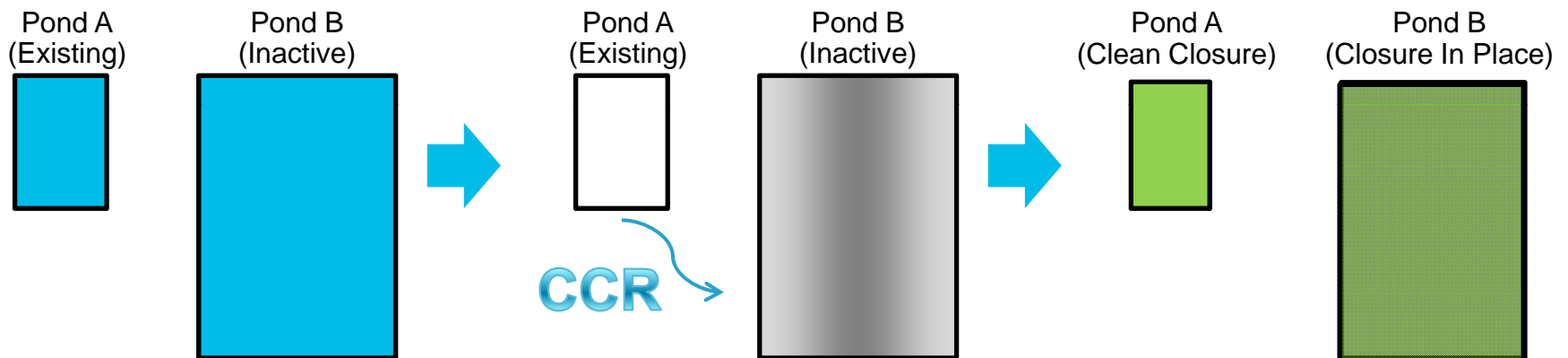
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Ash Consolidation – Must Be Beneficial

Ash Consolidation

Use CCR from existing Surface Impoundment (SI) to construct crown/cover system for inactive SI.



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- 02 The CCR must substitute for the use of a **virgin material**;;
- 03 The use of the CCR must meet relevant **product specifications**...
- 04 When unencapsulated use of CCR involving placement on the land of 12,400 tons or more in non-roadway applications, the user must demonstrate ...or that **environmental releases to groundwater, surface water, soil and air will be at or below relevant regulatory and health-based benchmarks** for human and ecological receptors during use.



05

CCR Piles

CCR Piles

CCR pile or pile means any non-containerized accumulation of solid, non-flowing CCR that is placed on the land. CCR that is beneficially used off-site is not a CCR pile.



Landfill

- A non-containerized pile is subject to all of the requirements of a landfill
- An example of a “pile” that is not yet beneficially used is unconsolidated CCR placed on the land, that have been designated by the CCR facility to be transferred to another location for subsequent beneficial use (e.g., use as road bed, closure construction) in the near future. Therefore subject to the disposal rule.



In a



Exempt from Rule

CCR Piles



...that is...



containerized

- The use of the phrase “non-containerized” is not intended to require that all activities occur within tanks or containment structures, but merely that concrete **measures have been adopted to control exposures to human health and the environment.**
- This could include placement of the CCR:
 - Protect Groundwater: On an impervious base, such as asphalt, concrete, or a geomembrane
 - Protect Surface Water: Leachate and run-off collection
 - Protect Air: Wall or wind barriers

CCR Piles



...that is...



containerized

Nevertheless, EPA agrees that not every activity that involves the management of CCR must occur in a unit that meets all of the technical requirements of a CCR landfill (e.g., **groundwater monitoring**).

- The use of the phrase “non-containerized” is not intended to require that all activities occur within tanks or containment structures, but merely that concrete **measures have been adopted to control exposures to human health and the environment.**
- This could include placement of the CCR:
 - Protect Groundwater: On an impervious base, such as asphalt, concrete, or a geomembrane
 - Protect Surface Water: Leachate and run-off collection
 - Protect Air: Wall or wind barriers



06

Groundwater Monitoring System

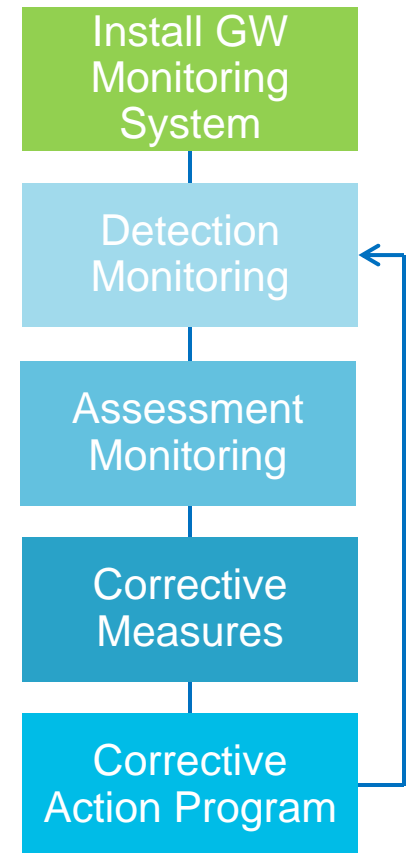
Groundwater Monitoring and Corrective Action

Applicability

- All CCR landfills (except inactive landfills that are not subject to the CCR Rule)
- All surface impoundments and lateral expansions (except inactive surface impoundments that will close within 36 months of the Rule)

Overview

- Within 30 months of publication
 - Install groundwater monitoring system
 - Conduct 8 monitoring events (must account for seasonal and spatial variability)
- Semiannual detection monitoring can trigger assessment monitoring (one statistical failure of Appendix III)
- If Assessment monitoring identifies presence of Appendix IV constituent above Groundwater Protection Standards (GWPS), then an Assessment of Corrective Measure is triggered.
- Leads to Implementation of Corrective Action Program



Appendix III Constituents
Boron
Calcium
Chloride
Fluoride
pH
Sulfate
Total dissolved solids (TDS)

Appendix IV Constituents	
Antimony	Arsenic
Barium	Beryllium
Cadmium	Chromium
Cobalt	Fluoride
Lead	Lithium
Mercury	Molybdenum
Selenium	Thallium
Radium 226 and 228 combined	

Groundwater Monitoring and Corrective Action

- **Q:** Are aquifers that do not yield a usable quantity or quality of groundwater covered by the rule's definition of "aquifer" which is limited to those "capable of yielding usable quantities of groundwater to wells or springs."
- **A:** The requirement to construct a unit with a base located no less than 1.52 meters (five feet) above the upper limit of the uppermost aquifer would not apply to geologic formations that are incapable of yielding usable quantities of groundwater to wells or springs. However, consistent with the final CCR regulations, as well as the part 258 regulations on which the CCR regulations are based, the quality and value of an aquifer should be a site-specific determination. **Usable water in an aquifer typically includes all groundwater currently used or potentially available for drinking water and other beneficial uses (e.g., industrial or agricultural use), whether or not it is particularly vulnerable to contamination.** The Agency is unable to judge the resource value of an aquifer based on a generic scale of significance because of the variability of aquifers on a site-by-site basis.

07

Recordkeeping, Notifications,
and Publicly Accessible Internet Site

CCR Recordkeeping

Operating Record

Files that must maintain all information required by Rule in a written operating record at their facility.

- Retained for at least five years
- More than one CCR unit may use one recordkeeping system
- For existing CCR units, ...no later than 6 months after publication date
- For new CCR units, ...no later than the date of initial receipt of CCR

CCR Website

Within 6 months of the Rule's publication date, establish and maintain a publicly accessible internet site (CCR website)



08

Questions (and Answers) from the EPA

EPA Q&A Overview

- Scope and Purpose (ash consolidation):
 - *“The rule does not prohibit placement of the dredged material (CCR) in another existing unlined surface impoundment, provided the other unlined unit has not triggered closures”*
 - No mention of beneficial use option
- Beneficial Use (waste vs product)
 - “Waste” = as “any garbage, refuse...and other discarded material...”
 - “Product” = raw material used as an ingredient in a manufacturing process that have never been “discarded”
 - If more CCR is placed in a pile that can be used → waste
 - For a waste, needs to be containerized to be considered CCR Pile (and not CCR landfill)
- Beneficial Use (offsite, 3rd party storage)
 - If a “waste” (determined by the utility) and > 12,400 tons; then a 3rd party storage site must comply with the 4th criterion (containerize the pile)
- Definitions (what is a CCR Surface Impoundment)
 - Sought clarification on cooling, wastewater treatment, storm water, aeration, evaporation, and leachate ponds
 - Compare against the definition of a CCR Surface Impoundment
- Closure and Post Closure Care (surface impoundment under an overfill)
 - *“...prior to construction of an overfill cell, the entire underlying surface impoundment must meet the closure requirements...”*

09

Suggestions to Establish a Program

Suggestions to Establish a Program

Topic	Description	Possible Solutions	Comments
Consistency across the fleet/program	<p>With the volume of efforts for a given utility spread across a (large) number of impoundments and landfills, consistency across the fleet of CCR units is important.</p> <p>This includes approach to engineering, O&M, inspection, instrumentation, reporting, lab testing, and more.</p>	<ul style="list-style-type: none">• Programmatic document or similar procedural guidance• Establish a steering committee• Quality review team	<p>This can also assist in transitioning between consultants</p> <p>Proactive approach to consistency through program-level documentation can increase efficiency</p>

Suggestions to Establish a Program

Topic	Description	Possible Solutions	Comments
Reporting Format	<p>The volume of required reporting will be significant, so establishing well-conceived, useable forms for the various reporting requirements will be critical.</p> <p>Formats recommended for:</p> <ul style="list-style-type: none"> • Reports, Plans, and Demonstrations • Notifications • Lab data 	<ul style="list-style-type: none"> • Establish report formats for Operating Record (OR) and CCR website postings • Discuss level of explanation (will the goal be explanatory/detailed or minimalist) • Establish procedures and protocols for notifications to the State and the CCR website (include answers to who, what, and when in the resolution) • Establish if reports, plans, etc. are to be provided as drafts and procedure to review and finalize. 	<p>Make distinctions between reporting-of-fact (lab data, activity notifications) and reporting of findings (statistical interpretation, data evaluation).</p>

Suggestions to Establish a Program

Topic	Description	Possible Solutions	Comments
Posting to Operating Record (OR) and CCR website protocols	Determine level of effort, format, review process, etc. related to posting to and maintaining the OR and CCR Website	<ul style="list-style-type: none"> • Define items to post to the OR and CCR website and corresponding schedule • Define process and format for items posted to the OR and CCR website • Define process to maintain • Identify role/staff to lead the task • Develop public fact sheets to explain information on the CCR website to reduce possible actions • Prepare a Memorandum of Development (presenting the logic for the website and operating record) 	Included would be the physical location of the OR as well as back-up procedures and quality verifications

Suggestions to Establish a Program

Topic	Description	Possible Solutions	Comments
Quality Management	Control of the accuracy and precision of data generated, findings developed, and communications posted when complying with the CCR Rule	<ul style="list-style-type: none"> • Establish quality procedures for generation, management, evaluation, and presentation/reporting of data (field procedures, laboratory standards, report detail checking, and independent technical review) • Establish guidelines for internal and external staff roles and responsibilities (revise as appropriate) • Establish a verification process to close out actions • Quality control/assurance plans in place for data collection and review 	<p>In some cases, this may include evaluating tasks and redefining measurable standards to aid in the QA process</p> <p>May involve procedures to review and appropriately flag third party data such as GW laboratory analyses as data basis for action triggers and decision-making</p> <p>The consequence of poor quality control will have the potential to be greatly magnified by the citizen-complaint process of governance.</p>

Suggestions to Establish a Program

Topic	Description	Possible Solutions	Comments
Training	Increased efforts are required for inspection and training to create a unified and CCR Rule-compliant approach is important. This also applies to other tasks as well such as engineering, laboratory testing, etc.	<ul style="list-style-type: none"> • Develop and present training for CCR Unit inspections • Develop guidance protocol (document) for conducting and reporting inspections • Evaluate other training needs 	<ul style="list-style-type: none"> • It is important to inform staff not only how to inspect, but also how to document their observations and any necessary repairs • Management/legal input on appropriate terms to use and those to avoid
Timeline Criteria	Evaluate and incorporate reviews and other efforts that impact schedules (including studies)	<ul style="list-style-type: none"> • Develop appropriate review time for appropriate individuals (legal, management, etc.) to build into schedules 	Assess strategies early and determine outside impacts (including ELGs, etc.)

Suggestions to Establish a Program

Overview

01 Establish consistency across the program

- Programmatic document(s) (technical standards)
- Reporting, demonstrations, etc.
- Establish quality control (considering self implementing, CCR website, etc.) and quality assurance processes
- Training (inspections, standards, EAP, etc.)
- Establish instrumentation program (action levels, process, etc.)
- Develop compliance approach to CCR Rule (schedule)
- Evaluate alternatives and innovative approaches
- Evaluate beneficial use program

02 Form a steering committee (Utility and Consultant)

03 Define roles and responsibilities due to new activities

- Engineering, O&M, regulatory, legal, etc. (internal to Utility)

04 Consider long-term agreements (consultant, contractor, lab, etc.)

05 Maintain focus on beneficial use




Thank you

Please contact us for more information



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