

REINHOLD ENVIRONMENTAL®



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WATER TECHNOLOGIES

EPA RULINGS ON CCR RULE
PART A

JUNE 28th, 2022

About Our Presenter

Max Swoboda

Customer Vertical Manager – Power Market

- 30 years of experience providing technical and water treatment solutions to power plants
- Has developed water solutions for many industries from both ultrapure water production to wastewater compliance
- Focused on the wastewater needs of coal-fired plants needing to stay in compliance with CCR and ELG regulations
- Bachelor of Science in Civil Engineering from the Virginia Military Institute
- Huntsville, AL, married into the Roll Tide side



Agenda

EPA Rulings on the CCR Rule Part A

- What is Part A of the CCR Rule?
- Timeline and Schedule
- Alternative Capacity
- Groundwater - Monitored Natural Attenuation

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TAKE AWAYS

I am not a lawyer.

These are my thoughts based on my understanding of the Rule and filings that are public record.

All situations are different, so how the Rule applies to an individual case can vary.

I stayed in the Sheraton last night, not the Holiday Inn Express.

What is CCR Part A?

Published August 28, 2020, 40 CFR Part 257

EPA Statements

“EPA is publishing this final rule to **revise portions** of the federal **CCR regulations** in title 40 of the Code of Federal Regulations (CFR) Part 257 so that they accurately **reflect** the regulations as they now stand in light of **the D.C. Circuit’s 2018 decision in USWAG**, which vacated portions of EPA’s 2015 final rule promulgating national minimum criteria for existing and new CCR landfills and existing and new CCR surface impoundments. Specifically, the D.C. Circuit **vacated** (1) the provisions of the 2015 rule that **permitted unlined impoundments to continue receiving coal ash** unless they leak (see 40 CFR 257.101(a)); and (2) the provisions of the 2015 rule that **classified “clay-lined” impoundments as lined** (see 40 CFR 257.71(a)(l)(i)).”

TAKE AWAYS

Updates required by Court Ruling -

- All unlined surface impoundments are required to close even if they are not leaking
- Clay-lined ponds are now classified as unlined

Therefore, previously compliant clay-lined pond needed to be closed as unlined impoundments.

The court ruling could create a closure path change for the effected sites, as these rulings could not be anticipated.

What is CCR Part A?

Published August 28, 2020, 40 CFR Part 257

EPA Statements

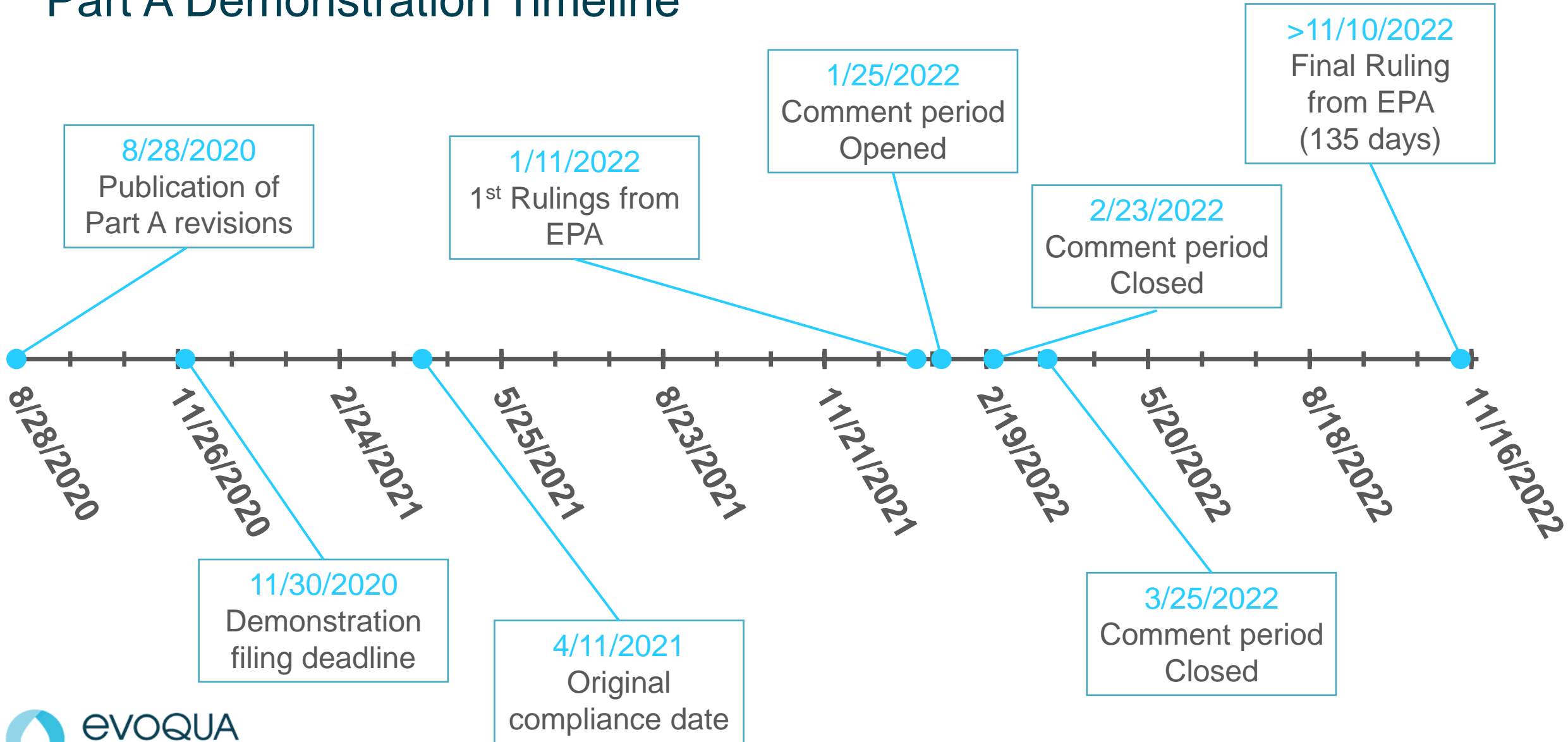
“EPA is finalizing amendments to the alternative closure provisions, 40 CFR 257.103. EPA is amending the existing provisions (40 CFR 257.103(a) and (b)) to only apply to CCR landfills. EPA is establishing **new alternative closure provisions**, 40 CFR 257.103(f)(1) and (f)(2), for which a **facility must submit a demonstration to EPA** for approval to **continue operating a CCR surface impoundment**. **These** new alternative closure provisions **do not amend** the implementation **schedules of groundwater monitoring and corrective action**, as they remain unchanged. The **new alternative closure** provisions will **grant** facilities **additional time** to cease receipt of waste and **initiate closure**.”

TAKE AWAYS

Two new standards are allowed,

- Lack of capacity – must demonstrate alternative capacity is technically infeasible
- Early retirement
 - Close by 10/17/23 for sites with impoundments less than 40 acres
 - Close by 10/17/28 for sites with impoundment greater than 40 acres
- Additional cost or inconvenience not a qualification
- Mitigation of Risk to people and environment
- In compliance and conducting corrective actions

Part A Demonstration Timeline



Deadline and Schedule

No time like the present!

EPA Statements

“EPA is proposing to set a **new deadline** for ‘insert name here’ to cease receipt of waste that would be **135 days from the date of the final decision** on ‘plant name’ Demonstration. This would provide ‘name’ with the **same amount of time** that would have been available to the facility had EPA issued a **denial immediately** upon receipt of the Demonstration (i.e., from **November 30, 2020**, when EPA received the submission, to **April 11, 2021**, the regulatory deadline to cease receipt of waste). This amount of time thus puts the facility in the same place it would have been had EPA immediately acted on the Demonstration and therefore adequately accounts for any equitable reliance interest ‘name’ may have had after submitting its Demonstration. Moreover, as discussed further below, **this date should provide ‘name’ with adequate time** to coordinate with and obtain any necessary approvals from ‘**grid operator**’ for **any outage of the coal-fired boiler** that may be necessary.”

TAKE AWAYS

Temporary treatment can be a path to uninterrupted power production.

Adequate time after the final decision is TBD?

Stacked deadlines for multiple plants creates a demand greater than the supply of temporary equipment.

Deadline and Schedule

No time like the present!

MISO Statements

“...MISO has **significant concerns** that substantial problems could result **if all, or even some, of the 3.1 gigawatts** of capacity involved in the above captioned dockets is **lost** as the direct or indirect **result of EPA action**. Loss of these generators will further tighten supply across the entire MISO region and could exacerbate **already dangerously thin coverage of demand** in certain subregions in the North and Central Regions of MISO.

“A complication **regarding timing** under the circumstances is that **multiple Attachment Y reliability studies** may be **required** as the result of similar **EPA orders that apply to multiple generators** in the MISO footprint **at the same time.**”

“Owners of a generator subject to the terms of the MISO Tariff must **submit** an Attachment Y **Notice** to MISO at least **26 weeks** in advance of any plan to suspend operation of a unit.”

TAKE AWAYS

Total MISO Capacity is 186GW. Peak Load 127GW

Coal is 33% of the total generation in 2020 and 28% of capacity.

Responding to Reliability issues for multiply plants is a complex issue and 135 days might not be reasonable reaction time.

Replacement power?

Deadline and Schedule

No time like the present!

USWAG Statements

“Additionally, the Part A Applicants in **EPA’s first tranche** of proposed decisions are being **unfairly subject** to a potential cease receipt **deadline** that is far **shorter** than those that will ultimately be imposed under **final denials** issued at a later point in time.”

“Until the Agency determines a method for **treating all** the Part A submitters **alike** in a fair and reasoned manner, the cease receipt **deadline should continue to be tolled** for the Part A Applicants.”

”Because assessing **grid reliability impacts is complex**, USWAG urges EPA to **work directly** with the affected **RTO** to address these potential issues.”

TAKE AWAYS

The first set of rulings disadvantaged those sites.

The remaining unacted on sites have inherently more time to react.

EPA should provide greater deference in setting the deadlines to be fair with all sites.

RTO and EPA should work together on the reliability issue as it applies to the deadlines.

Deadline and Schedule

No time like the present!

Environmental Protection Network (EPN) Statements

EPN encourages coal-fired power **producers that have not received** an EPA **review** to date not to wait for EPA to review the remaining 48 Part A demonstrations and the seven Part B demonstrations, but rather, **model the actions asked for** in these few reviews at all coal-fired power plants. That is, all coal-fired power plants need to **without delay implement the requirements** outlined throughout these comprehensive reviews.

TAKE AWAYS

Act now, not later.

Plan ahead

Alternative Capacity

Is Alternative Treatment, Alternative Capacity?

EPA Statements

The Demonstration must **substantiate** the **absence of alternative capacity for each wastestream** that the facility is requesting to continue placing in the CCR surface impoundment beyond April 11, 2021. 40 C.F.R. § 257.103(f)(1)(iv)(A)(1). ... This means that, **if there is a technically feasible option** to reroute **any** of the wastestreams away from the surface impoundment, the owner or **operator must do so**. 40 C.F.R. § 257.103(f)(1)(ii), (v). In the CCR Part A Rule preamble, EPA acknowledged that some of these **wastestreams are very large** and will be **challenging to relocate**, especially for those that are sluiced.

“_____ only considered off-site disposal options for its **combined flows**; it did not consider off-site disposal options for **individual wastestreams**. This alone would be a **basis for denial**.”

TAKE AWAYS

Each = Individual

Any

Wastestream ≠ Impoundment

Consideration of feasibility as individual streams

Considering individual streams represents a reduction of volume to the CCR unit, thus lowers risk.

Individually, the feasibility for capacity of smaller lowers solids wastestreams is higher, than taken as a combined stream.

Alternative Capacity

Is Alternative Treatment, Alternative Capacity?

EPA Statements

“...._____ was required to evaluate **all potential alternatives**, including **temporary storage options**, and it appears it did not evaluate whether it has sufficient footprint on-site for the tanks required or the ability to route its non-CCR wastestreams to the tanks. This technology may be **technically feasible** to implement at _____, at least **for the smallest wastestreams**; however, the Demonstration **does not provide any evaluation.**”

“However, the **smaller volume wastestreams** have the potential to be rerouted to **temporary storage tanks**. In such cases, the owner or operator **must evaluate this option**, and, if it is determined to be technically feasible, must implement it. 85 Fed. Reg. 53,541.”

TAKE AWAYS

EPA speaks of Alternative Capacity in terms of temporary tankage to hold water for settling for smaller wastestreams.

Alternative Treatment to meet outfall requirement can be used to remain compliant.

Key Driver for a treatment based approach is the presence of fly ash, water treatment vs. solid handling.

Alternative Capacity

10,000 gpm LVWW

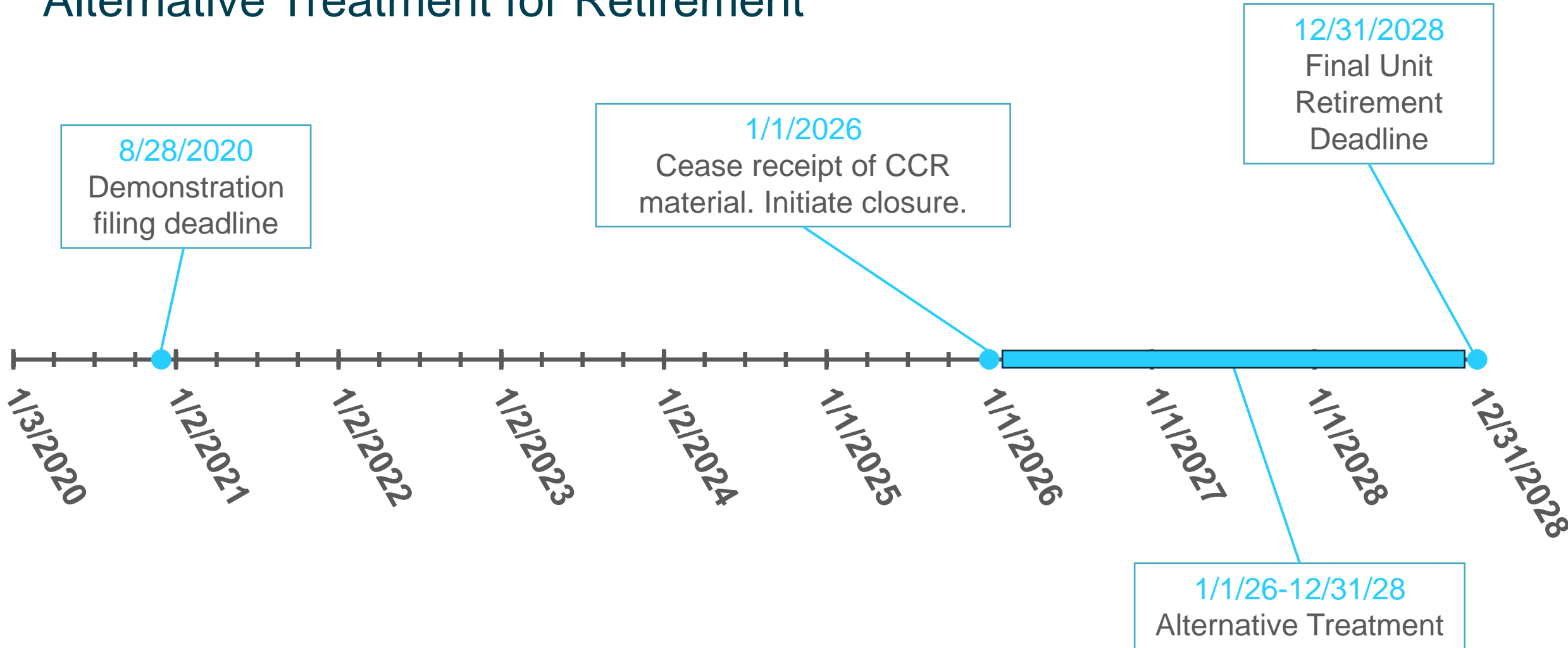
Example of complete ash pond diversion system to treat LVWW.

Installed in four months to comply with pending NPDES deadline

- Fully operated for 9+months
- Full NPDES compliance
- Zero Plant Downtime



Alternative Treatment for Retirement



Alternative Capacity

Is Alternative Treatment, Alternative Capacity?

USWAG Statements

“EPA Improperly Construes the Term Surface Impoundments to Include Tank Systems: In a position that is at odds with the plain language of the CCR regulations and that would improperly expand the scope of the CCR program. **EPA suggests** that **concrete tank** systems fall **within the** scope of the **definition** of **CCR** surface **impoundment**. This position is at odds with the plain language of the definition of CCR surface impoundment and is **directly at odds with EPA guidance** provided to the regulated community following promulgation of the CCR rule that self-supporting concrete tanks are not CCR surface impoundments.

TAKE AWAYS

Is it a tank or Impoundment?

A Tank must be,

- Free standing
- Have Walls or shell that support and maintain the structural integrity when filled capacity with the material it is intended to hold.

Groundwater - Monitored Natural Attenuation

To Degrade or Not To Degrade?

EPA Statements

“Constituents in **Appendix IV** to 40 C.F.R. part 257 are atoms, and **atoms do not break down or degrade** through any naturally occurring process unless they are radioactive. Thus, **while MNA can reduce the concentration** or mobility of inorganic contaminants in groundwater if immobilization occurs through adsorption or absorption to subsurface soils, **it does not remove the contaminants from the environment.**”

”Note that this is also consistent with EPA’s long-standing policy that **dilution and dispersion are generally not appropriate** as primary MNA mechanisms.”

“This is in contrast to **organic compounds**, comprised of multiple elements, which **may react or degrade** to their constituent elements or form other, **less harmful compounds.**”

TAKE AWAYS

Groundwater is a focus of EPA, key pathway to compliance. “Journey to Justice” Tour

Appendix IV contains atoms that conform to the Principle of Mass Conservation

Immobilization of Soluble atoms is unlikely

Treatment by extraction appears to be favored by EPA, or maybe remedy selection is favored over evaluation.

Groundwater - Monitored Natural Attenuation

To Degrade or Not To Degrade?

USWAG Statements

“EPA **incorrectly suggests** that this demonstration is required by the **rule’s remedial objective of removing** from the environment **as much** of the contaminated **material** that was **released** from the CCR unit **as is feasible**. But this objective was explicitly added to the rule to **apply to non-groundwater releases**—eg., catastrophic failures—and is **not applicable to groundwater releases** where contaminants have **leached from CCR** but no “material” has been released. Contrary to EPA's position, the plain language of the rule does not **preclude any particular remedy**, including MNA, as long as the facility can demonstrate that the remedy is capable of achieving the specific corrective action remedial objectives.

TAKE AWAYS

The rule does not dictate a remedy.

If a particular remedy works, it can be selected by the facility.

- (1) be protective of human health and environment
- (2) attain the groundwater protection standard
- (3) control the source(s) of releases...constituents in appendix IV...
- (4) remove from the environment as much of the contaminated material that was released from the CCR unit as is feasible, factors such as avoiding inappropriate disturbance of sensitive ecosystems
- (5) comply with standards for management of wastes as specified in § 257.98(d).117

What are free liquids?

Groundwater is part of free liquids

EPA Statements

40 CFR § 257.53- Definitions.

“Free liquids means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.”

“...40 C.F.R. § 257.102(d)(2)(i). This provision applies both to the **freestanding liquid** in the impoundment **and to all separable porewater** in the impoundment, whether the porewater was derived from **sluiced water or groundwater** that intersects the impoundment. The definition of free liquids in 40 C.F.R. § **257.53 encompasses 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.

TAKE AWAYS

See EPRI –

“Since soil moisture content is a continuum between residual saturation (the theoretical level of moisture remaining in a material at maximum suction) and saturation (when all pore spaces are filled with water), we see challenges in defining the point at which soil moisture is “readily separable.” Therefore, we offer reviews of selected EPRI research on CCR properties relative to impoundment closure activities and discuss techniques for identification of “readily separable” water.”



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WATER TECHNOLOGIES

THANK YOU