

WORK SESSION MINUTES – WEDNESDAY, APRIL 7, 2021

STATE OF KANSAS)
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CITY OF KANSAS CITY)

The Board of Public Utilities of Kansas City, Kansas (aka BPU, We, Us, Our) met remotely in Work Session on Wednesday, April 7, 2021 at 5:00 P.M. The following Board Members were on the teleconference: Robert L. Milan, President; Mary Gonzales, Vice President; Rose Mulvany Henry, Secretary; Jeff Bryant, Thomas Groneman, and Ryan Eidson.

Also on teleconference: William Johnson, General Manager; Angela Lawson, Deputy Chief Counsel; Lori Austin, Chief Financial Officer/Chief Administrative Officer; Jeremy Ash, Executive Director Electric Operations; Steve Green, Executive Director Water Operations; Johnetta Hinson, Executive Director Customer Service; Dong Quach, Executive Director Electric Production; Jerry Sullivan, Chief Information Officer; Jerry Ohmes, Executive Director Electric Supply; Robert Kamp, IT Project Manager; Dennis Dumovich, Director Human Resources; Patrice Townsend, Director Utility Services; Andrew Ferris, Director Electric Supply Planning; Ingrid Setzler, Director Environmental Services; and Scott Paulsen, Supervisor Vegetation Management.

A tape of this meeting is on file at the Board of Public Utilities.

Mr. Milan called the meeting to order at 5:00 P.M.

Roll call was taken, and all Board Members were present.

Item #3 – Approval of Agenda

A motion was made to approve the Agenda by Ms. Gonzales, seconded by Mr. Bryant and unanimously carried.

Item #4 – Board Updates / GM Updates

There were no comments.

Item #5 –Vegetation Management Update

Mr. Jeremy Ash, Executive Director Electric Operations and Mr. Scott Paulsen, Supervisor Vegetation Management, gave a PowerPoint presentation to update the Board on the utility vegetation management and maintenance. (see attached).

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Mr. Johnson commented on system reliability and its connection with vegetation management. It was now a requirement to track and report our numbers to the federal government. Making sure that system reliability wasn't an issue, directly affected economic development. He commended them on doing an excellent job in getting our numbers where they needed to be.

Item #6 – Nearman Bottom Ash Project

Ingrid Setzler, Director Environmental Services, gave an update to the Board on the Nearman Creek Power Station Surface Impoundment Closure, including key regulatory considerations that went into the closure, with a PowerPoint presentation (see attached).

Ms. Setzler addressed questions and comments from Mr. Johnson and the Board.

Item #7 – Adjourn

A motion was made to adjourn the Work Session at 5:49 P.M. by Mr. Eidson, seconded by Ms. Gonzales and carried unanimously.

ATTEST:

DocuSigned by:

Rose Mulvany Henry

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Secretary

APPROVED:

Robert Milenda

President



Kansas City Board of Public Utilities

Vegetation Management

65,000 Electrical Customers

- Estimated 6.6 million trees with an average of over 100 trees per customer. US average/12.
- Current 3 year cycle with over 115 Feeders. Nationally only 5% of electric utilities are on a 3 year cycle!
- \$2.67 million annual Budget. Decreased from \$3.3 annual average Budget.
- 2 Current Contractors on site: Asplundh Tree Company and Wright Tree Service.

What are we trying to accomplish?

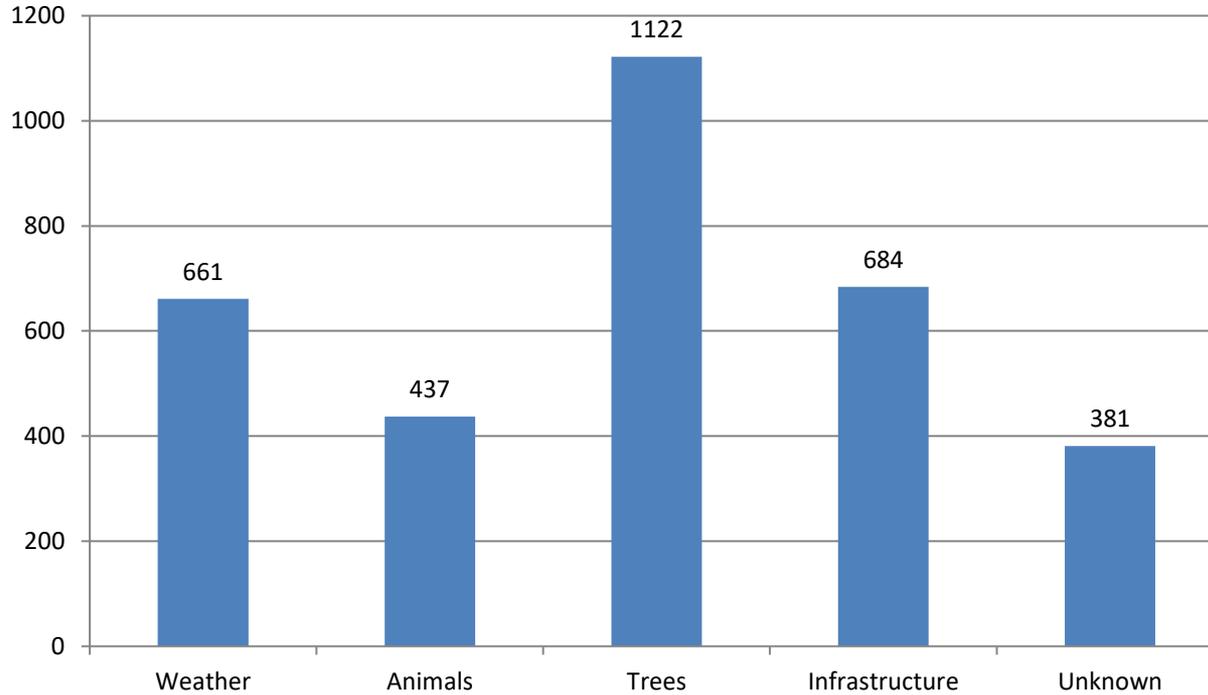
- We are trying to clear a minimum of 10ft around Primary Distribution lines and up to 22ft around Transmission lines.
- Removing all tall growing species of trees within the ROW on all 69kV and 161kV transmission lines.
- Reduce vegetation related outages by 50% each year. (1217 in 2016 and 97 in 2020)
- Provide “Excellent Customer Service” by contacting customers within 24 hours of their requests.
- Educating our Customers on what we are trying to accomplish.

Tree Species and Growth Rates

- Ash - 18” per year with 36” Sucker Growth per year
- Cherry - 14”/year with 24”/year
- American Elm - 26”/year with 60”/year
- Hackberry - 18”/year with 30”/year
- Locust - 18”/year with 80”/year
- Silver Maple - 18”/year with 65”/year
- Pin Oak - 24”/year with 36”/year
- White Oak - 9”/year with 19”/year
- Poplar - 52”/year with 80”/year
- Black Walnut - 40”/year with 70”/year

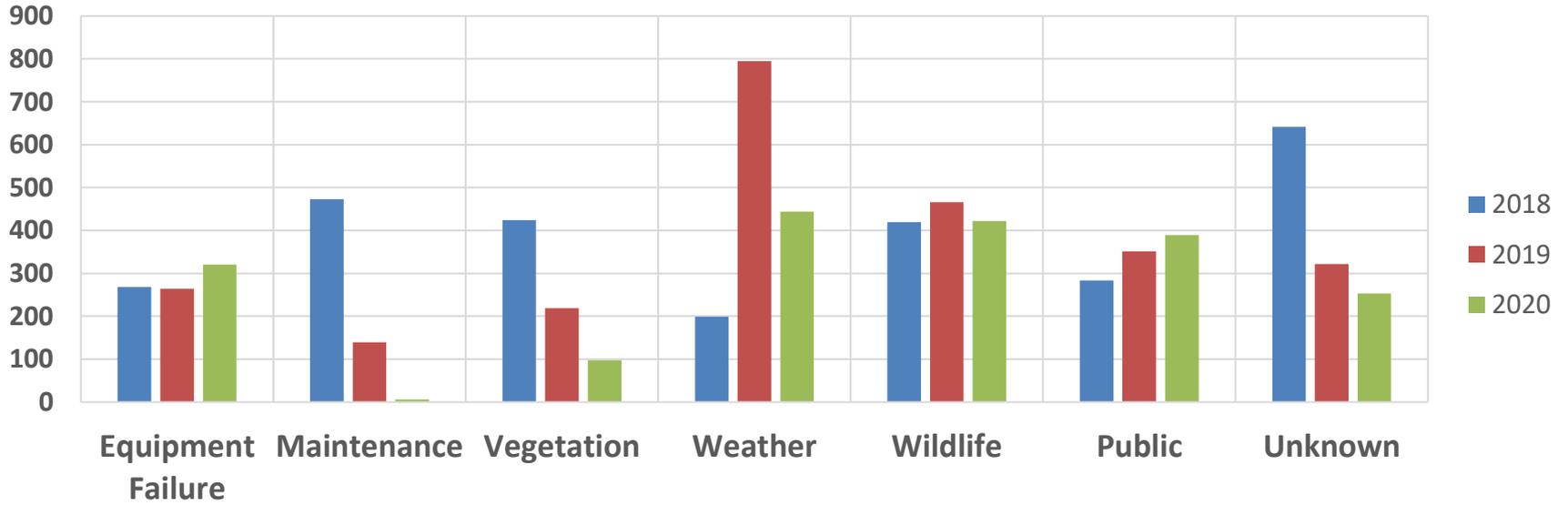
- Inches of rain per year = 10 year average 34” per year
- Growth rates of trees in this area, growing seasons
- Number of species of trees within this area - dominant types = oaks, maples, hackberry, mulberry, hickory, catalpa, pines, firs, cypress,
- Disturbance growth rates, trimming disturbance, removals

Leading Causes for Outages (2017)



Leading Causes for Outages 2018 - 2020

Outage Trends By Cause



- **VM Power Line Clearances**
 - 15kV Distribution - 10 feet
 - 69kV Transmission - 20 feet
 - 161kV Transmission - 22 feet

- **Customer Responsibilities Beyond These Clearances**

Storm Damage



Storm Damage



Storm Damage



Storm Damage



Clearance Before Removal



Clearance After Removal



Clearance Before Trim



Clearance After Trim



Clearance Before Trim



Clearance After Trim



Clearance Before Removal



Clearance After Removal



Clearance Before Removal



Clearance After Removal



Questions?

Thank You!

Nearman Creek Power Station Surface Impoundment Closure Board Workshop

Environmental Services Department
April 7, 2021

Regulatory Considerations re Surface Impoundment Closure

- (1) Effluent Guidelines - bottom ash transport water
- (2) Coal Combustion Residuals Rule - design criteria
- (3) Clean Water Act - hydrologic conductivity



Regulatory Considerations: Effluent Limitations Guidelines (ELGs)

- National standards for wastewater discharges to surface waters of the U.S. (and publicly owned treatment works) – via NPDES permits
- April 2013 – Published in Federal Register
- November 2015 – Final Rule Published in Federal Register
- September 13, 2017 – EPA issued rule postponement of two ELG timelines for compliance dates for the best technology available (BAT) effluent limitations and pretreatment standards (PSES) for a 2 year period (October 2018 to October 2020)
 - Bottom ash transport water
 - Flue gas desulfurization (FGD) wastewater
- April 12, 2017 Ruling by US Court of Appeals, 5th Circuit, vacates and remands to EPA BAT for coal plants leachate and legacy wastewaters
- EPA's 2020 final rule established limits for FGD and bottom ash transport water (new ELG to reduce ~1 million lbs/year more pollution than 2015 rule – mercury, arsenic, selenium and nitrite/nitrates)
- Bottom ash transport water now requires high recycle rate systems and site specific discharges not to exceed 10% of bottom ash transport water system volume





Regulatory Considerations: Clean Water Act (CWA) Groundwater Liability

- (1) In 2018, EPA issued a Request for Comment regarding the CWA Coverage of “Discharge of Pollutants” via a Direct Hydrologic Connection to Surface Water and whether pollutant discharges from point sources that reach jurisdictional surface waters via groundwater**
- (2) On April 15, 2019, EPA issues an Interpretative Statement on the Application of the NPDES Program to Releases of Pollutants from Point Sources to Groundwater. EPA concluded that releases of pollutants to groundwater are “categorically” excluded from the Act’s permitting requirements...discharges to groundwater are regulated by States and EPA under different statutory authority**
- (3) On April 23, 2020 the Supreme Court ruled on the Maui vs Hawaii Wildlife Fund case requiring permits when a pollutant originates from a non-point source that can be traced to reach navigable waters through groundwater**
- (4) On January 14, 2021, EPA issued guidance clarifying the Supreme Court Decision of Maui vs Hawaii Wildlife Fund – discharges of pollutants from a point source that reach a water of the U.S., after traveling through groundwater, if that discharge is the “functional equivalent of a direct discharge from a point source into navigable waters of the U.S.**

Regulatory Considerations: Coal Combustion Residuals Rule



- ❖ Published in the Federal Register April 17, 2015
- ❖ Rule became effective on October 17, 2015
- ❖ Modifications/revisions to the Rule since 2016 and beyond
- ❖ Landmark ruling in August, 2018 by D.C. Circuit Court: Utility Solid Waste Activities Group (USWAG) v. EPA. Requires closure or retrofitting of all unlined OR clay lined surface impoundments:
 - ❖ Vacated relevant provisions that allows for continued operation of unlined surface impoundments
 - ❖ Court found EPA acted arbitrarily and capriciously in concluding existing clay-lined impoundments should count as “lined”
 - ❖ Legacy impoundments no longer exempt
- ❖ In March, 2019, a Federal Appeals court granted EPA remand without vacatur, its 2018 revisions to the Obama-era Rule, which ensures that compliance deadline extensions and other provisions that were part of the changes will stay in place until the agency finishes a new “expedited” process to amend the rule
- ❖ Many other regulatory changes have occurred and continue to occur with the CCR Rule that I will discuss at later date
- ❖ BPU’s decision to convert to a dry bottom ash system and close the Nearman Power Station’s surface impoundment was a good decision

Coal Combustion Residuals Rule

➤ 40 CFR 257.70 Design Criteria

(a)

(1) No later than October 17, 2016, the owner or operator of an existing CCR surface impoundment must document whether or not such unit was constructed with any one of the following:

(i) [Reserved]

(ii) A composite liner that meets the requirements of § 257.70(b); or

(iii) An alternative composite liner that meets the requirements of § 257.70(c)



2 feet of compacted soil
with hydraulic
conductivity of 1×10^{-7}



Initial Steps Prior to Initiating Closure

- Low volume water discharge via NPDES permit
- Groundwater monitoring system and/or additional wells & initiate detection/assessment monitoring for data evaluation
- Location restrictions/Design Criteria/Structural Integrity/Air Criteria
- Annual Groundwater Monitoring & Corrective Action
- Hydrologic and Hydraulic Capacity Assessments
- Statistical evaluation of groundwater monitoring
- Establish groundwater protection standards
- Closure and Post-closure Care
- Alternate Source Demonstration
- KDHE approval of Construction Quality Assurance Plan for closure/UG Floodplain Permit
- Posting to BPU CCR website & Recordkeeping

Subsurface Investigation

Subsurface Investigation of Design Criteria for Liner

BPU Nearman CCR Project Subsurface Investigation Sketch 8/1/2016



Legend

-  2016 Borings
-  Existing Locations
-  Monitoring-Wells
-  GeoSource_Borings
-  AECOM Soil Borings

Boring	Northing	Easting	Liner Elev
B-10	323261	2245482	748
B-11	323524	2245671	742
B-12	323091	2245947	742
B-13	322971	2250013	742
B-14	323410	2250217	782
B-15	323041	2250088	742

All borings advanced 5 feet below liner elevation

Bathymetric Survey

Bathymetric survey
of existing bottom ash



Data Collection

Contour map



Demolition and Disposal of Piping



Step 1:
Removal of rip
rap from banks



Removal of Rip Rap



National Pollutant Discharge Elimination System (NPDES)- Low Water Volume Discharge

Step 2: permitted low water discharge



Use of CO2 to reduce pH



Low Water Volume Discharge

Additional filtering box for water discharge to aid in reducing suspended solids.
2 and 5 micron felt filters



Progress



Delays Due to Flooding Events in 2019



June 2019 Missouri River Flood Event



2019 Missouri River Flood Event



Removal of Bottom Ash for Beneficial Use

Step 3: removal of bottom ash and water management



Removal of Bottom Ash for Beneficial Use



Cold Weather Delays with Freezing Equipment



Looks like the Surface of Mars



Removal of Final Ash & Liner Material



Nuclear Gauge Testing for Final Compaction

Silty Material Allowable Placement Range

Minimum Density	106.6	pcf
Minimum Moisture	9.4	%
Maximum Moisture	19.4	%

Clayey Material Allowable Placement Range

Minimum Density	100.7	pcf
Minimum Moisture	12.3	%
Maximum Moisture	22.3	%



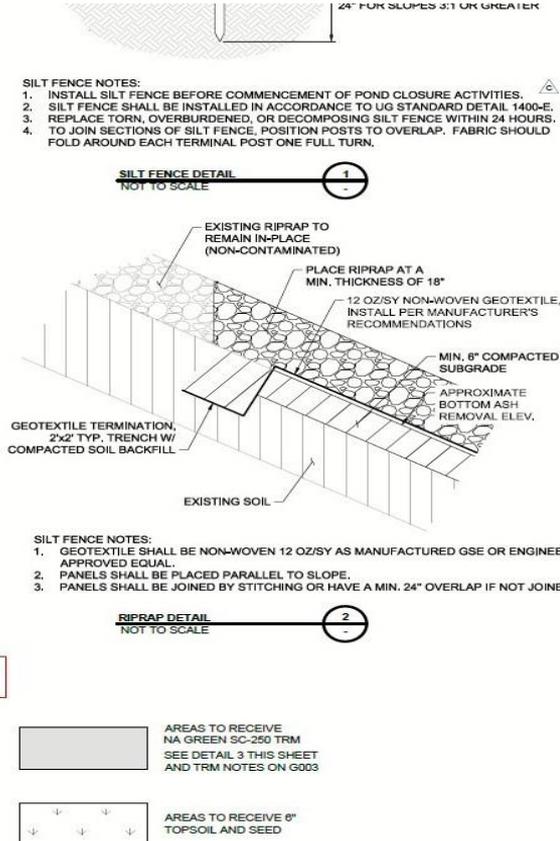
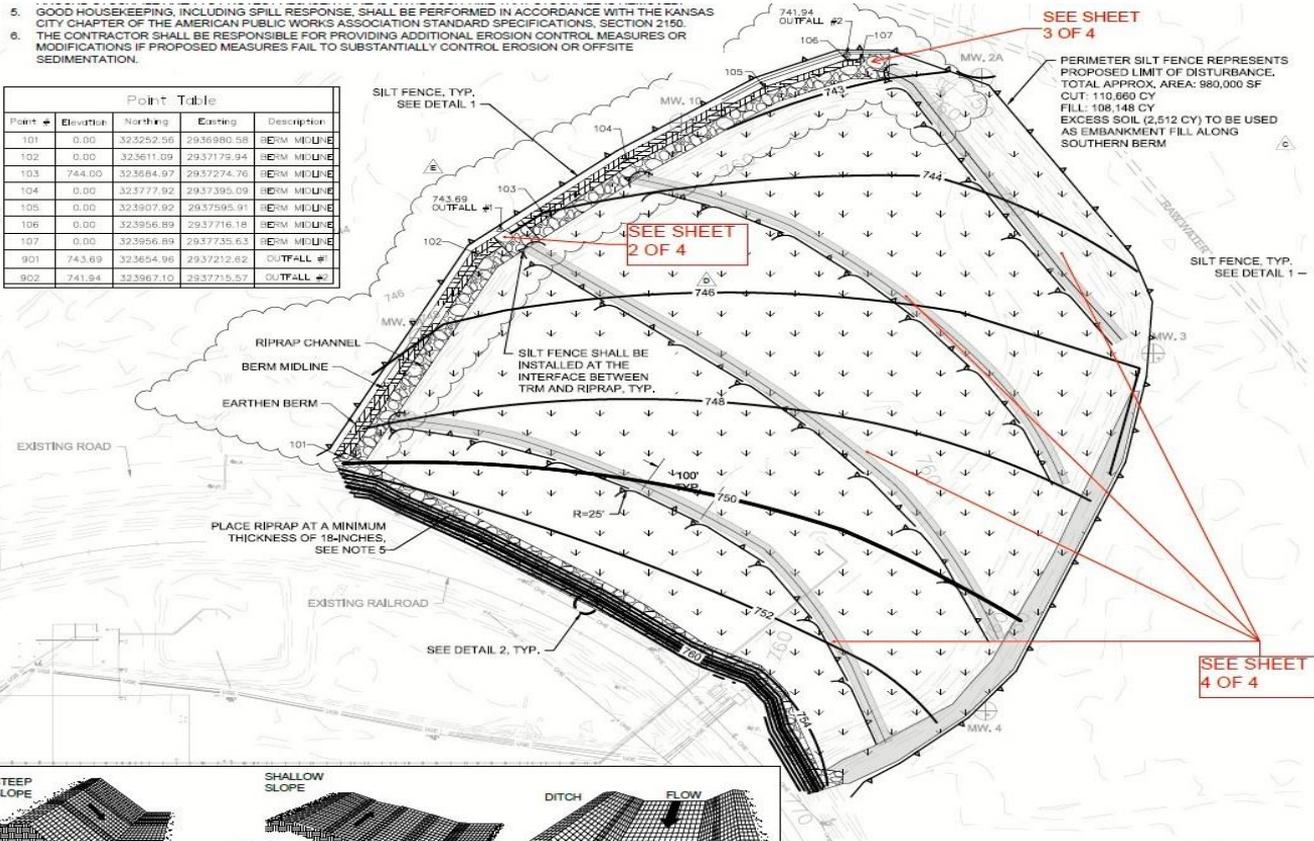
Final Grade & Cover of Former Surface Impoundment



Construction Quality Assurance Plan

- GOOD HOUSEKEEPING, INCLUDING SPILL RESPONSE, SHALL BE PERFORMED IN ACCORDANCE WITH THE KANSAS CITY CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION STANDARD SPECIFICATIONS, SECTION 2150.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADDITIONAL EROSION CONTROL MEASURES OR MODIFICATIONS IF PROPOSED MEASURES FAIL TO SUBSTANTIALLY CONTROL EROSION OR OFFSITE SEDIMENTATION.

Point #	Elevation	Northing	Eastng	Description
101	0.00	323252.56	2936990.58	BERM MIDLINE
102	0.00	323611.09	2937175.94	BERM MIDLINE
103	744.00	323684.97	2937274.76	BERM MIDLINE
104	0.00	323777.92	2937395.09	BERM MIDLINE
105	0.00	323907.92	2937595.91	BERM MIDLINE
106	0.00	323956.89	2937716.18	BERM MIDLINE
107	0.00	323956.89	2937735.63	BERM MIDLINE
901	743.69	323654.96	2937212.62	OUTFALL #1
902	741.84	323967.10	2937715.57	OUTFALL #2





CCR Groundwater Monitoring Well Network



Next Steps

- Continue reporting requirements and postings to BPU website
- After Pond Closure, CCR Rule requires two groundwater monitoring events for Appendix IV constituents, if below groundwater protection standards for two semi-annual consecutive events, then only semi-annual groundwater monitoring per KDHW landfill regulations
- Post-closure care until unit can be removed from permit



Ash Tonnage

Total Amount of Bottom Ash Removed

	Beneficial Use (Inland & Holland Mines)	Landfill (unsuitable material for mine stabilization)
Tonnage	211,838	67,694
\$/ton	\$17.11	\$27.92

Final Cost of Bottom Ash Pond Closure: \$8.0 M

Savings of ~ \$2.3M by utilizing beneficial use vs. landfill

Final Closure

Benefits of Closure by Removal:

- Lessens likelihood of legal challenges
 - Recent lawsuits:
 - Ameren in St. Charles County for violation of the CWA
 - Georgia Power CWA violations
- Considered Best Measure of Corrective Action
- No Post Closure Care requirements under 40 CFR 257.102(c) for facilities closing by removal. Always pending CCR regulatory changes and State adoption of Permit Program



Questions?

