To avoid echoing or feedback, all lines are muted

At the end of the presentation, we will unmute and call upon those who would like to ask questions

This virtual meeting will be recorded and posted on our webpage

www.scdhec.gov/CongareeRiver
Option to Call In

• If you are experiencing audio problems, join the virtual meeting by phone:

  • Phone number:  (864) 558-7311
  • Access Code:    768 349 125#

Exits the meeting. (If you accidentally exit the meeting, you can rejoin.)
Be smart. Stay 6 feet apart.

scdhec.gov/COVID19
Stop the Spread of COVID-19

- Wash hands often
- Stay home while sick
- Cover coughs and sneezes
- Clean surfaces often

scdhec.gov/COVID19
Agenda

- Brief History
- Update Progress since 2019 Public Meeting
- Discuss Preferred Cleanup Alternative
- Start Public Comment Period
- Answer Questions
History

• Tar like material (TLM) in the Congaree River was reported in June 2010 by a local citizen
• DHEC responded by collecting samples and looking for a source
• The source was determined to originate from a former Manufactured Gas Plant (MGP)
Manufactured Gas Plant History

- Located on Huger Street
- Operated from 1900-1950
- Plant burned coal to produce gas for production of the predecessor to natural gas
- Created large amounts of byproduct (coal tar)
- 1950s-2008 Operated as the City Bus Terminal
- Contract between DHEC and Dominion Energy (DEC) to assess and cleanup MGP Plant in 2002
- MGP removal conducted from 2009-2012
Risks of TLM in the River

- Primary potential risk is from direct contact with the TLM
- Undisturbed, the TLM is not dissolving into the river water and poses little risk to the water quality.
Assessment of the River

• Surface water sampling
  • Five events have been completed since 2017.
  • To date, no TLM-related constituents have been detected

• Aquatic Macroinvertebrate Assessment
  • June 2017
  • No adverse effects
Cleanup Challenges

- Civil war munitions deposited in this portion of the Congaree River
  - Potential Unexploded Ordnance
  - Worker Safety Concerns
  - Preserving Historical Artifacts
- 2015 Flood deposited up to 5 feet of sediment in the area of concern
- River has bedrock bottom making metal piling options infeasible
- Dynamic river conditions
- Limited timeframes for work in the river
<table>
<thead>
<tr>
<th></th>
<th>Congaree River Sediments Removal Action Alternatives</th>
</tr>
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<tbody>
<tr>
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Evaluation of Cleanup Alternatives: Engineering Evaluation/Cost Analysis (EE/CA)

- Protection of Human Health & Environment
- Compliance with State and Federal Regulations
- Reduction of Contaminant Mass, Volume & Toxicity
- Short Term and Long-Term Effectiveness
- Implementability
- Costs
- Public Comment
Full-Scale Removal (Alternative 4): Original Footprint
Full-Scale Removal (Alternative 4): Risks

- Erosion to the Shoreline on the West Bank
- Flooding on the West Bank
- Overtopping of the Cofferdam
- Potential Catastrophic Overtopping
- Construction/Deconstruction

Full Scale removal determined to be infeasible due to construction concerns from ACOE.
Sediment Capping (Alternative 3): Evaluation

• **August 2016**: DHEC requested Dominion Energy to seek US Army Corps of Engineers permit for Sediment Capping

• **February 2017**: DHEC held a public meeting on the Sediment Capping Alternative.
  - Concerns from local community, stakeholders, and natural resource agencies

• **October 2017**: US Army Corps of Engineers granted a Nationwide permit for the Sediment Capping Alternative
# 2017 Public Meeting Feedback

<table>
<thead>
<tr>
<th>Surface Water Data</th>
</tr>
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<tbody>
<tr>
<td>Health of the River</td>
</tr>
<tr>
<td>Long-term impacts to the river from a cap</td>
</tr>
<tr>
<td>Long-term effectiveness of a cap</td>
</tr>
<tr>
<td>Will cap endanger the recreational user</td>
</tr>
<tr>
<td>There must be a better alternative than this</td>
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<td>Removal of TLM preferred by the public</td>
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</table>

Taking into Account Input from the Local Community, Stakeholders, and Natural Resource Agencies, DHEC decided to hold off on moving forward with **Alternative 3: Sediment Capping** and reevaluate alternatives.
Modified Removal Action (Preferred Alternative)

- **December 2017:** DHEC met with primary stakeholders to discuss removal of the tar-like material.
- **May 2018:** US Army Corps of Engineers indicated a permit may be achievable for a Modified Removal Action.
- **June 2018:** DHEC requested Dominion Energy pursue a Modified Removal Action for the site.
- **December 2018:** Dominion Energy submitted a Conceptual Plan for a Modified Removal Action.

### Primary Stakeholders

<table>
<thead>
<tr>
<th>DHEC</th>
</tr>
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<tbody>
<tr>
<td>Dominion Energy</td>
</tr>
<tr>
<td>Congaree Riverkeeper</td>
</tr>
<tr>
<td>Property Owners</td>
</tr>
<tr>
<td>Girl Scouts of America</td>
</tr>
<tr>
<td>City of Columbia</td>
</tr>
<tr>
<td>SC Governor’s Office</td>
</tr>
<tr>
<td>City of West Columbia</td>
</tr>
</tbody>
</table>
Modified Removal Action (Preferred Alternative): Evaluation

- Approximately **70-75% of total TLM would be removed** from the Congaree River.
- TLM would be removed from areas of the river that are **most accessed** and where the **majority of TLM volume** exists in the river.
  - **Two (2) separate areas**
  - Largest area may use multi-phased approach
- Reduces impact of river rise on west bank
  - Full-scale removal = 8 feet
  - Modified Removal Action = <1 foot
### Congaree River Sediments Removal Action Alternatives

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<td>Targeted areas of TLM would be physically removed from the river. This would include construction of a cofferdam and dewatering of the project area in order to access the TLM and sediments. Removal would be completed in the dry and TLM would be disposed of properly in a landfill.</td>
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This is a plan view of TLM distribution and thickness in the river. Blues, Greens, and Oranges show areas of TLM layers greater than 1/2 foot.

Modified Removal Action would Target Areas with the most TLM
Examples of Articulated Concrete Block (ACB) Mats that will be used to Reinforce the Rockfill Cofferdam on Sides and Top
Reinforced Rockfill Cofferdam Conceptual Design

River Side

Land Side

4” Articulated Concrete Block Mats
Reinforced Rockfill Cofferdam is **Expected to Be Overtopped** Occasionally. Cofferdam will have Outlet Structure Built in to Remove Water Once River Levels Fall Below Cofferdam Height

**Overtopping Events** will Require **Time** for Preparation for an Overtopping Event, **Time** in which River Levels are Above Safe Working Levels, and **Time** to Pump Water from Behind the Cofferdam so Work can Restart
Cofferdam Layout View

View from West Columbia Side

View from Gervais Street Bridge
This figure shows the average TLM thickness in the Congaree River. Areas 1 and 2 will be removed.

<table>
<thead>
<tr>
<th>TLM Thickness</th>
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<tr>
<td>Dark Blue</td>
<td>&gt;0.25 ft</td>
</tr>
<tr>
<td>Greens</td>
<td>0.5-1.5 ft</td>
</tr>
<tr>
<td>Yellows</td>
<td>1.5-2.5 ft</td>
</tr>
<tr>
<td>Oranges</td>
<td>2.5-3.5 ft</td>
</tr>
<tr>
<td>Red</td>
<td>3.5-4 ft</td>
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Modified Removal Action (Preferred Alternative): What will remain?

Sediment left in the “other areas” that will not be removed consist of either:

- Relatively minor thicknesses of TLM
- TLM that is now covered by additional sediment resulting from the 2015 flood
- TLM that is far enough away from the shoreline and in deeper water where the risk of dermal contact is minimal
TLM is in Gray and Sediment is in Pink

Bedrock bottom is depicted with Black hatch line

Cross-Sections of TLM and Sediment in the River

Water > 10 ft

Very small thickness of TLM, in deeper water, and/or under large amount of sediment
Permitting Challenges of Alternative 4A: Modified Removal Action

- Dominion Energy has submitted the Permit Application to the Army Corps of Engineers for Review (09/30/2020)
- Some Permits and Approvals have been accomplished in preparation for the Permit Application.
- Some Permits and Approvals will need to be obtained during or once the Army Corps of Engineers Permit has been issued
- Permit process may take an extended period of time
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Public Comment Period

November 17, 2020 – January 15, 2021

Send Written Comments to:
Greg Cassidy
State Voluntary Cleanup Program
2600 Bull Street
Columbia SC 29201
cassidga@dhec.sc.gov
## Alternative 4A: Modified Removal Action Timeline

<table>
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<th>Date</th>
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<tr>
<td>2021</td>
<td>Approval of Army Corps of Engineers Joint Federal and State Application</td>
</tr>
<tr>
<td>2021</td>
<td>Approval of Remaining Necessary Permits</td>
</tr>
<tr>
<td>2021</td>
<td>Submittal and Approval of a Final Design for Alternative 4A: Modified Removal Action</td>
</tr>
<tr>
<td>Early 2022</td>
<td>Modified Removal Action Kickoff Meeting</td>
</tr>
<tr>
<td>Early 2022</td>
<td>Site Operations Area Set-up</td>
</tr>
<tr>
<td>May 2022</td>
<td>Target Date for Cofferdam Construction to Begin</td>
</tr>
<tr>
<td>2022-2024</td>
<td>Projected Timeframe to Complete Removal Action</td>
</tr>
<tr>
<td>2025</td>
<td>Projected Timeframe to Complete Restoration</td>
</tr>
</tbody>
</table>
Questions?

Lucas Berresford
Greg Cassidy

Tom Effinger
Rusty Contrael

Bill Stangler

http://www.scdhec.gov/CongareeRiver
How to Participate

- Unmute to indicate you would like to speak
- Unmuted lines will be called on to speak
- Click the Hand Raise icon to be called on to speak

Hand Raise (click this icon to indicate you would like to speak)
Muted (no one in the meeting can hear you)
Unmuted (everyone in the meeting can hear you)
Contact Us

Greg Cassidy
State Voluntary Cleanup Program
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