

# Columbia Fuel Fabrication Facility Governor Nuclear Advisory Committee

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# CFFF Environmental Performance Update

- Since June 2018, CFFF has aggressively addressed its performance issues in **pursuit of sustainable environmental excellence**
- To date, CFFF has met or exceeded all commitments under its Consent Agreement with DHEC to **comprehensively address our past**, e.g.,
  - Over 27 months, completed remedial investigation fieldwork that has fully characterized the nature and extent of historic impacts to groundwater, surface water, sediment and soils
  - Communicated results in an open and transparent manner
- CFFF has significantly strengthened its programs to **assure safe, reliable and predictable environmental performance for the future**, e.g.,
  - Established an electronic environmental data management program, enabling trending and proactive identification of potential issues
  - Developed a sophisticated Conceptual Site Model (CSM) that is updated as new data is obtained, to fully understand current site conditions and risks to human health and the environment
  - Established a risk-based remediation procedure, to be used in conjunction with the CSM to minimize impacts during normal operations and prevent off-site consequences

Westinghouse, DHEC, NRC & 3 independent environmental firms  
conclude the RI data demonstrates  
there are no offsite impacts from CFFF operations and  
no near-term risk to public health and safety.



# CFFF Environmental Performance Update (cont.)

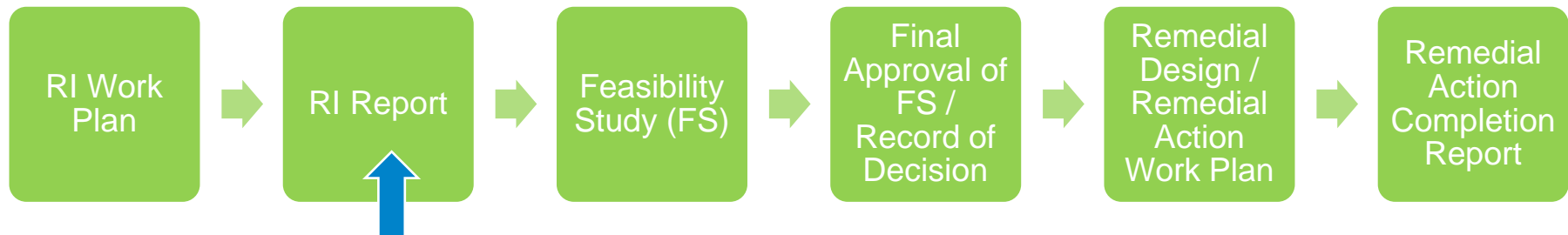
- CFFF has invested in its site operations to **eliminate or reduce environmental risks**, e.g.,
  - Eliminated use of perchloroethylene in uranium recovery operations, improving personnel safety, reducing waste generation and eliminating the only potential volatile organic compound risk to soil and groundwater
  - Decommissioned plating room operations, significantly reducing hazardous waste generation and eliminating the only process that could pose risk to the environment in mechanical area manufacturing
  - Removed all 62 sealands containing radioactive materials in the Southern Storage area and remediated to residential standards
  - Removed out-of-service equipment on the roof, posing a potential impact to stormwater
  - Closed, remediated and returned the former East lagoon footprint to a grassy field
  - Initiated plans to close the sanitary lagoon
- CFFF has **proposed programmatic commitments for its NRC license renewal application to ensure the improvements we have made are sustainable.**

**CFFF invests in continual improvement and environmental risk reduction projects at the site.**

# Remedial Investigation Work Plan Summary

## Comprehensive Evaluation of Environmental Media

- In addition to routine monitoring, CFFF systematically completed remedial investigation field work from June 2019 – August 2021 to comprehensively characterize the site, e.g.,
  - Installation of 57 new permanent GW monitoring wells, bringing the site total to 118 wells sampled semi-annually
  - Completion of over 108 soil samples and 174 sediment samples
  - Additional surface water samples
  - Much more as described in monthly progress reports to SCDHEC

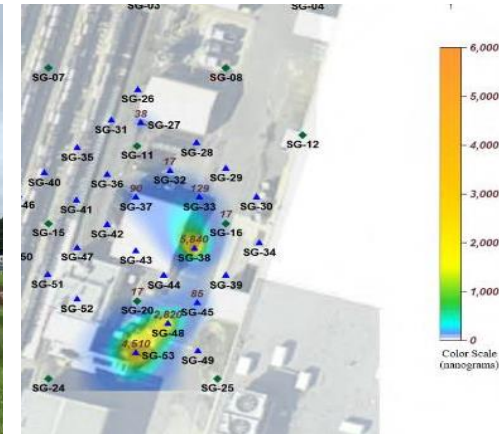
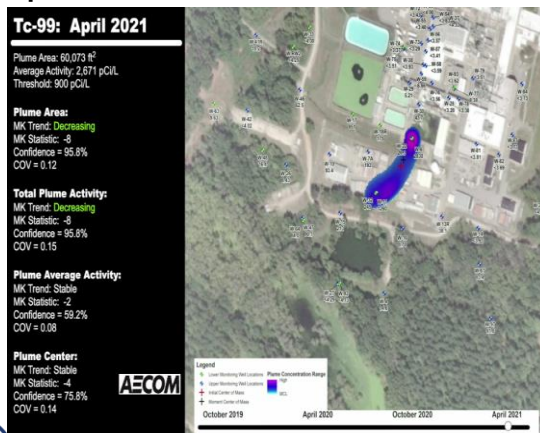


**We Are Here**

**We are in a defined process that produces predictable outcomes**

# Remedial Investigation Conclusions

- Groundwater, surface water, soil and sediment data indicate there are no contaminants migrating off the site, and the documented impacts pose no potentially significant threat to plant workers, the public or the environment.
- The source, nature and extent of environmental impacts are defined, vertically and horizontally.
- Efforts through the consent agreement assure these contaminants will remain onsite and will be remediated in a time frame commensurate with the risk of public health and environment safety.
- A survey of water supply wells downgradient from the site show no impact from CFFF operations.



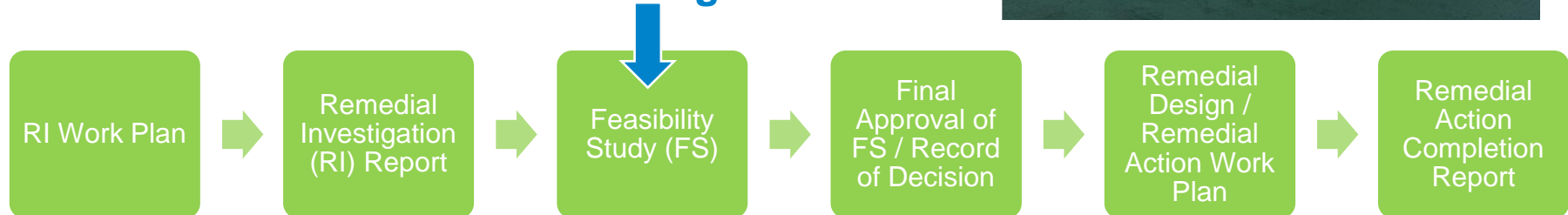
# Consent Agreement (CA)

## Next Steps

- Complete comprehensive Final Remedial Investigation (RI) Report
  - Met with DHEC on September 16<sup>th</sup> to review data from the RI Phase II Work Plan
  - DHEC concurred no additional field investigation is needed based on current understanding; CFFF should begin drafting the Final RI Report and risk assessment (planned for submittal in March 2022)
- Submit a Feasibility Study Work Plan within 90 days of DHEC approval of the Final RI Report
- Proactively develop sanitary lagoon decommissioning plans
  - Sampling of lagoon sludge was completed in June 2021
  - Sludge stabilization testing to be completed in October 2021
  - Design new system to replace the lagoon (est. completion in 2023)
  - Develop cost estimate to decommission once new system is installed



Goal is to get here





# East Lagoon has been closed!

**Starting Point**



**Sludge Stabilization**



**Soil Sampling**



**Excavation**



**Compaction**



**Green Field**



# Cultural Resources Survey



- CFFF hired professional archeologists to assess the site for historic and cultural resources
- The survey plan was approved by the State Historic Preservation Office (SHPO) in August
- Survey fieldwork was completed by two teams in September
- Re-assessment of the Denley Cemetery was included, using Ground Penetrating Radar (GPR) and detailed mapping tools
- Detailed technical report generation is in process
  - Preliminary results indicate there are no cultural resources within the site that are eligible for the National Register of Historic Preservation (NRHP)
  - The Denley cemetery should continue to be preserved due to its local significance and sensitive resources



# NRC License Renewal Status Update

- NRC extended the draft Environmental Impact Statement (EIS) public comment period 60 days to November 19<sup>th</sup>
- CFFF voluntarily proposed License Commitments to NRC to ensure sustainable environmental excellence is built into our programs /processes
  - Submit CFFF's environmental monitoring program to the NRC for review and approval, upon either SCDHEC's approval of the Remedial Investigation Report as required by the Confirmatory Order (CA), or within five years of the license renewal, whichever comes first
  - Complete SCDHEC Confirmatory Order (CA) - completion is defined as submittal of the final written report to SCDHEC documenting Remedial Action Completion
  - Within 90 days of submittal of the CA final written report to SCDHEC, Westinghouse will submit its environmental monitoring program described in Section 10.1.4 to the NRC for review and approval
  - Maintain a living conceptual site model used to predict potential site/environmental impacts of legacy and on-going operations
  - Develop and implement a site remediation strategy document
- Following License Renewal, NRC will continue to monitor and inspect the site
  - Checking safety operations, radiological controls, safeguards and facility support - **~630+ hours** annually
  - Frequency of monitoring and inspections **does not** change whether it is a 20 or 40-year license

# External Communications & Community Engagement

## General Public Communications:

- Westinghouse Webpage
  - Source of publicly available information for ease of use
  - Directly addresses requests from the community
  - Send direct mailers/newsletters/FAQ to local community
  - <http://www.westinghousenuclear.com/columbiacommunity>

## DHEC Interactions:

- Weekly DHEC Calls
- Monthly Consent Agreement Progress Reports
- Communication Protocol



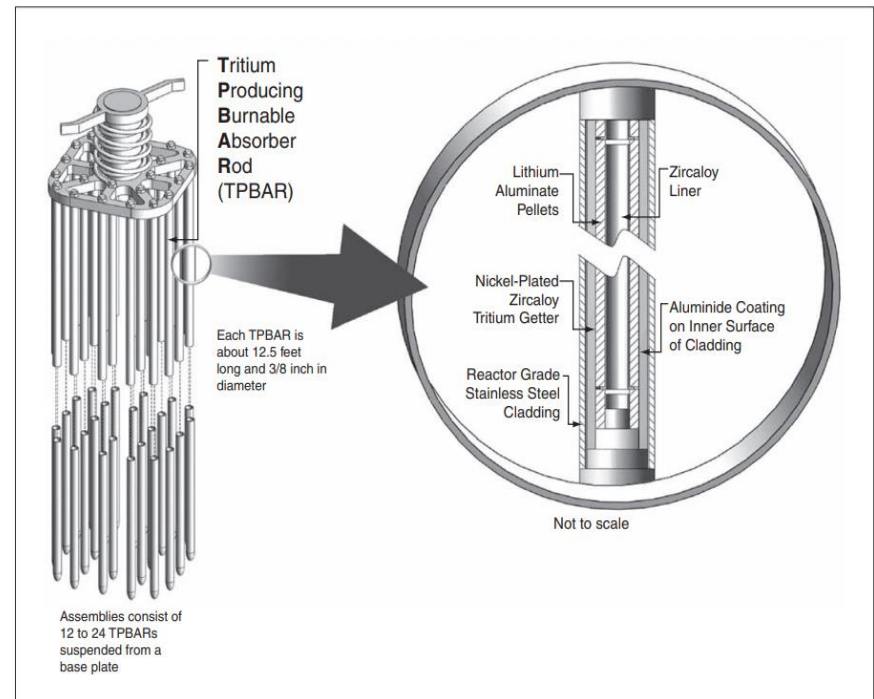
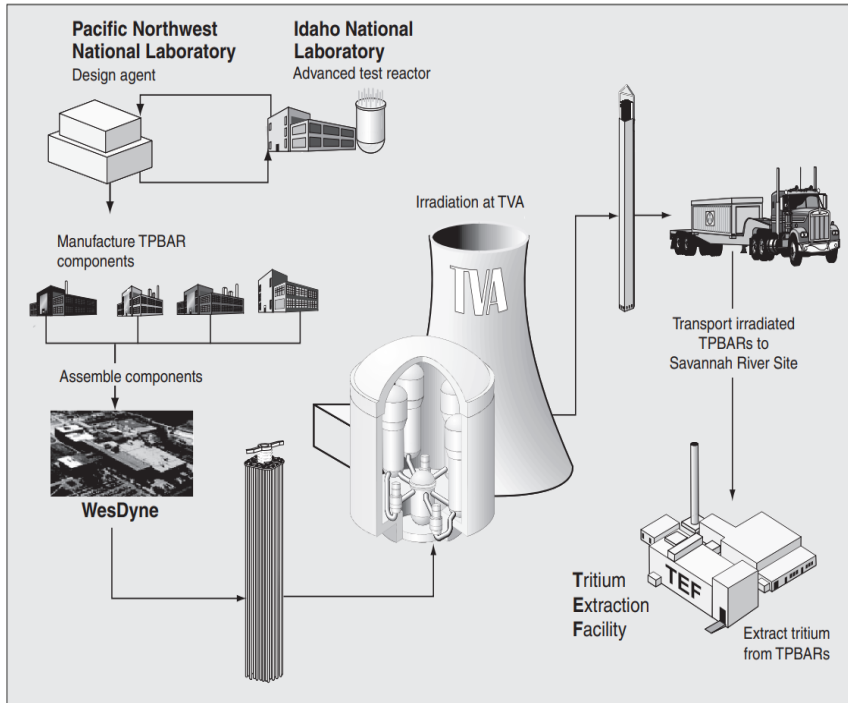
## Other Key Stakeholders:

- Attended the Hopkins Community Awareness Public Meeting October 11<sup>th</sup>
- Community Engagement Board – 3<sup>rd</sup> Quarter Meeting- August 18<sup>th</sup>
- Ongoing engagement & donations in local schools and local community events
- South Carolina State University Westinghouse Day- Sept. 29<sup>th</sup> & Career Fair Sept. 30<sup>th</sup>



# Operations and Environmental Impact - TPBAR

## Tritium-Producing Burnable Absorber Rod (TPBAR) Production Process



*Tritium is **not** present or produced at CFFF, it exists once it is irradiated at a customer's reactor site. Also, there are no liquid or airborne effluents from this process.*

# Summary

- We continue to urgently and significantly reduce legacy and future risks of environmental impacts from our operations.
- Our commitment to the future is evident in the self-identified controls we have included in our license renewal. This will ensure proper and effective actions and decisions regarding environmental issues in the future.
- We are implementing a sustainable culture change focused on self-identification and reporting of issues along with a strong focus on continuous improvements that influences all aspects of our performance.
- Our culture shift is based on strong self-identification and complete transparency with our stakeholders. We are making the right and responsible decision no matter how difficult it may be – no shortcuts.
- We have reinvigorated corporate oversight and support to ensure that we remain on track and drive sustainable change successfully.

**We are committed to doing the right things the right way and are implementing our improvements in a way that will make them last!**





# QUESTIONS?