



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW
ATLANTA, GEORGIA 30303-8960

August 24, 2023

MEMORANDUM

SUBJECT: Region 4 Responses to CSTAG Recommendations on Operable Unit 4, Anniston PCB Site

FROM: Pamela Scully, Remedial Project Manager
Restoration and Sustainability Branch
Superfund and Emergency Management Division

**PAMELA
SCULLY**

Digitally signed by
PAMELA SCULLY
Date: 2023.08.25
11:02:47 -04'00'

THRU: David Keefer, Branch Manager
Restoration and Sustainability Branch
Superfund and Emergency Management Division

**WILLIAM
KEEFER**

Digitally signed by WILLIAM KEEFER
Date: 2023.08.28 10:12:40 -04'00'

TO: Karl Gustavson, Chair,
Contaminated Sediments Technical Advisory Group (CSTAG),
Office of Superfund Remediation and Technology Innovation

PURPOSE

The purpose of this memorandum is to respond to recommendations from the Contaminated Sediments Technical Advisory Group (CSTAG) dated July 31, 2023, concerning the proposed plan for Operable Unit 4 (OU4) of the Anniston PCB Site (Site).

OVERVIEW – REGION 4 RESPONSE TO CSTAG RECOMMENDATIONS ON PROPOSED REMEDY FOR ANNISTON OU4

There are important considerations that have influenced Region 4's response to CSTAG's comments. First, there is one facility that manufactured polychlorinated biphenyls (PCBs) in Anniston, Alabama and contributed most of the PCBs still residing in the lower Snow Creek and Choccolocco Creek waterways. Further, only one potentially responsible party (PRP) has liability for the work being proposed in OU4. For that reason, the Site is being addressed as a Superfund Alternative Approach Site and has not been listed on the National Priorities List. Additionally, the remedial investigation and feasibility study (RI/FS) is being performed under a Consent Decree that is subject to oversight by a court appointed technical special master who understands the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). It has taken nearly 20 years to collect data, assess risk, and evaluate alternatives for impacted sediment in lower Snow Creek and Choccolocco Creek. Region 4 believes that it has proposed a comprehensive remedy and has strong confidence in its long-term success. While we acknowledge CSTAG's concerns about the quantity and age of the data set, we believe preliminary design investigation (PDI) sampling will address deficiencies. Further, concern that a remedy could change over the course of its implementation is a risk that is present at all remedial sites. CERCLA affords tools such as post construction monitoring and its statutory five-year review process to adjust selected remedies where warranted. Region 4 does not agree that its proposed remedy should be interim because, as constituted, the proposed remedy is comprehensive in its scope and is based on a sound RI/FS process.

RECOMMENDATIONS AND RESPONSES

1. Protectiveness of the Proposed Final Remedial Alternatives

- a) Consistent with its 2020 recommendations, CSTAG does not agree that the OU4 FS can support a final ROD. Doing so puts the Region on record as assuring the public and the court of their confidence that the proposed remedy will achieve remediation goals at appropriate spatial scales throughout OU4, in a reasonable timeframe. CSTAG's previous and current evaluations do not indicate that a record exists to support that conclusion. Instead, CSTAG recommends the Region consider moving forward with one of the following options:

Interim OU4 ROD: CSTAG suggests that the assembled record better supports an interim action. The interim remedy could be positioned as a source control action that targets OU4's creek bank sources of COCs and the highest COC concentration bed sediments to decrease COC exposure and downstream transport. After remediating the riverbanks identified as PCB source areas and sediments throughout OU4 that exceed a RAL, the Region could determine if the interim remedy is effective and if natural recovery is occurring in downstream areas as predicted to develop a record to support a final OU4 ROD.

Split OU4 into two OUs: The NCP (300.430 (a)(ii)(B)) states "Sites should generally be remediated in operable units when early actions are necessary or appropriate to achieve significant risk reduction quickly, when phased analysis and response is necessary or appropriate given the size or complexity of the site, or to expedite the completion of total site cleanup." The Region could consider dividing OU4 into two OUs and pursue a final ROD upstream of RM 29.5 where bank remediation is proposed while deferring action on the downstream OU until the remedy has been implemented and sufficient time has elapsed to recharacterize the downstream OU. This would require analyses that demonstrate protectiveness in the upstream OU and compare alternatives against the nine NCP criteria and each other.

Response: The Region respectfully disagrees that the OU4 FS does not support a final ROD. A feasibility study is the mechanism for the development, screening, and detailed evaluation of alternative remedial actions. The Region believes that sufficient data is available to perform a feasibility study. Uncertainty with the data and analyses required to ensure remedy success can be assessed and resolved in remedial design. Furthermore, the Region believes that the recommendation to either conduct the remedy as an interim action or as two separate OUs would unnecessarily delay the cleanup effort the community has been waiting to see completed for decades. After PDI sampling is complete, the likelihood of the remedy meeting the monitored natural recovery (MNR) timeframes can be re-evaluated, and additional actions taken if needed to ensure success. The CSTAG recommendation unnecessarily subjects the community to an additional RI/FS process and risk assessment. It should be noted the first effort took 20 years to complete and will likely require another 10 years to negotiate, design, and implement. Conversely, a long-term monitoring plan and five-year review process would allow for adjustments to meet the final ROD's MNR timeframe, without adding 20-30 years to the process.

- b) CSTAG recommends that these options require 1) pre-design sampling throughout OU4 to fill data gaps (not just in areas identified in the pre-2008 RI/FS sampling) with the objective of identifying sediments greater than RAL concentrations and establishing a pre-remediation baseline concentration (recommendation 5a) in appropriately sized SWAC exposure areas (recommendation 3); 2) post-remediation sampling within the remediated areas to establish effectiveness and document post-remediation conditions (recommendation 6a); 3) MNR evaluations of trends in fish, sediment, and surface water PCB concentrations (see recommendation 6c); and 4) a plan with a timeline to conduct the early action (interim or upper OU), assess goals, and establish decision time points to determine whether additional remediation is warranted for a final remedy (see 2020 recommendation 9b). The Region should also consult EPA's adaptive site management framework that describes how to implement interim actions to support a final remedy through planning, goal identification, and iterations of remediation, monitoring, and evaluation.

Response: Region 4 does not agree with item 4 that an early action (interim remedy or separate upper OU remedy) is the correct course of action at this Site but will definitely consider adaptive management during remedial design and development of the long-term monitoring plan. Region 4 agrees that items 1 through 3 are actions that are typically conducted during remedial design and post-remediation monitoring would be conducted as components of a OU4 final ROD (see responses to recommendations 5a, 3, 6a, and 6c).

2. RAO refinement

CSTAG recommends that language be incorporated into the RAO or PRG descriptions to clarify how achievement of the downstream transport and riverbank soil migration RAOs will be assessed. For example, if a protective PRG is attained in the sediment bed, then it is anticipated that the objective of reducing downstream migration of contaminants will be achieved. Contaminated sediment sites commonly use contaminant thresholds (RALs) for the management of contaminated media, including riverbanks. If erosive banks that exceed the RAL value are stabilized or removed, then it is anticipated that the riverbank RAO will be achieved.

Response: The region agrees that the RAOs should clearly state what is required to achieve the objective. The proposed plan RAOs have been modified to address this recommendation and Region 4 is willing to make adjustments as necessary to achieve this recommendation.

3. Remediation goals and SWACs

Similar to CSTAG's 2020 recommendation 6 on SWAC application in OU4, CSTAG recommends that the Region specify the area over which the SWACs will apply and provide a rationale for choosing these areas. CSTAG recommends developing biologically and physically relevant exposure area/units using the physical characteristics of the river and biological characteristics of the receptor. The smallest exposure area relevant to the human health and ecological risk receptors should be used in SWAC derivation and application. The SWAC-based remediation goals will be evaluated in these areas. A "moving window" analysis based on the smallest relevant exposure area may be preferred in the absence of physical barriers or other logical separations. Throughout the RI and FS, OU4 is divided into ten reaches and various evaluations have been conducted in each reach. At a minimum,

the SWAC remediation goal for PCBs that is protective of human health through fish consumption could be evaluated over each of these 10 river reaches.

Response: Region 4 agrees with this recommendation. The proposed plan has been modified to reflect that a 95% UCL SWAC is required in each reach of the creek.

4. Additional alternatives Recommendations

- a) The interim action approach recommended by CSTAG above (recommendation 1a) should consider a broader range of RALs that lessen the reliance on MNR and provide the decision maker with sufficient information to compare alternatives.

Response: The proposed RAL is based on site-specific toxicity testing that the EPA directed the PRPs to fund through government laboratories at USGS and USACE. Region 4 believes the site-specific toxicity data provides a sound basis for selecting an RAL and also believes the proposed MNR timeframes are reasonable. Should PDI modeling conducted in support of the RD (when new and additional data is available) indicate that the proposed RAL cannot meet the desired MNR timeframe, the RAL can be revised. This will not change the validity of the comparative analysis of alternatives or the risk management decisions made in the ROD.

- b) CSTAG does not recommend proceeding with a final ROD for OU4 as currently defined. However, if the Region intends to pursue a final remedy for OU4 (or the upper portion of OU4), the proposed cleanup plan should present a full range of remedial alternatives, including alternatives with lower RALs that lessen the reliance on MNR. A full range of alternatives would vary in the degree of active remedy from MNR only to a “maximum extent feasible” sediment bed and creek bank remediation. For example, at least two additional alternatives should be included that rely less on MNR to achieve the remediation goal: 1) a “maximum extent feasible” sediment bed and creek bank remediation alternative, which would include achieving the sediment remediation goal/CUL upon completion of remediation (i.e., an analysis of the RAL that will achieve the CUL/RG in each SWAC exposure unit and inclusion of erosive banks greater than a bank source control RAL); and 2) an alternative with an intermediate RAL that evaluates more sediment bed and creek bank active remediation than the alternatives, but less than the “maximum extent feasible” alternative. Alternatives would evaluate the post-remediation SWAC achieved within each SWAC exposure area compared to the PRG and whether PRGs are achieved post-remediation or within a reasonable time frame (e.g., 20 years). Similar to recommendation 1b above, common elements would include river-wide predesign sampling, post-remediation sampling, and long-term monitoring (see recommendations 5 and 6).

CSTAG reiterates that a primary issue with this approach is that MNR, especially for extended time periods, would have to be considered as unreliable or unknown, which would decrease the acceptability of MNR-reliant alternatives in the nine criteria evaluation. The uncertainty associated with MNR could potentially be ameliorated with a robust post-implementation remediation goal monitoring program with unambiguous triggers and timelines for additional remediation if media COC concentrations are not met.

Response: As described in response to recommendation 4a, the RAL proposed is based on site-specific toxicity testing and reasonable MNR timeframes that can be confirmed in a more detailed remedial design, long-term monitoring, and five-year reviews.

5. Pre-design Sampling Recommendations

- a) CSTAG recommends that pre-design sediment sampling be conducted throughout OU4, (including in areas previously estimated to be “not recoverable”). The sampling design objectives should be to provide assurance that RAL exceedances will be identified if they are present and to generate a statistically robust estimate of the SWAC concentration in the exposure areas for use as a baseline in remedy effectiveness evaluations. Here and in the other phases of sampling, a sample density greater than that used in the RI will be needed, preferably using a spatially balanced, random stratified survey design to reduce potential biases and increase statistical confidence in the monitoring design and SWAC estimates. The sampling density should have numbers sufficient to calculate SWAC statistics (e.g., 95% UCL on mean) with certainty over the relevant exposure scale defined by the biological endpoints.

Response: Region 4 agrees that the PDI sampling is necessary. The FS sampling is dated, and the density of samples collected is not sufficient for RD/RA. However, when sediment was identified as “not recoverable” it was because no sediment was present at that location or interval due to the presence of bedrock or boulders (FS page 4-11). The proposed plan has been modified to reflect that a 95% UCL SWAC is required.

- b) CSTAG recommends that the Region consult with Agency resources to develop a procedure for updating and objectively determining the location of sediment deposits and developing strata for sediment sampling and analysis to support remedial design. This effort should include an updated, comprehensive sediment bed characterization that combines modern techniques such as LiDAR, sampling, and geomorphology to establish the location of actionable sediment deposits. If the remedial design is performed by PRPs, this procedure would be shared with those parties to incorporate into the remedial design.

Response: Agency resources will be relied upon to define the RD statement of work and review field sampling plans and results. Sediment investigation techniques will be updated where needed to locate actionable sediment deposits. Typically, RD oversight is considered sufficient to ensure collection of acceptable data, and the financial burden is on the responsible parties rather than Superfund resources. Region 4 will work with sediment experts to ensure the validity of the sediment mapping and that sufficient data is collected.

- c) CSTAG recommends that the Region evaluate whether bank sampling is sufficient to provide confidence that PCB sources have been identified throughout OU4. Source control should occur where sources are present, independent of river mile. If current sampling is inadequate, it should be updated during pre-design sampling and results incorporated in the remedial design to ensure that PCB sources are controlled.

Response: The Proposed Plan preferred remedy section was modified to require that all creek bank soils where the selected erosive potential (i.e., severe, moderate, minor) exceeds the cleanup goal in the top six inches will be addressed by the remedy.

6. Post-remediation and MNR Monitoring

- a) CSTAG recommends that the proposed plan includes post-remediation monitoring to verify that dredging achieved its objectives in the areas it was applied. To support this, the expectations of the remediation approaches should be explicitly stated (i.e., that dredging is intended to excavate materials to the depth of native or unimpacted sediment, verified by using a PCB performance standard in the excavation footprint).

Response: The post remediation monitoring requirement identified in the recommendation is included in the preferred alternative.

- b) CSTAG recommends that the sampling frequency be revisited to ensure it supports the needs of the action (e.g., an interim action approach may need higher resolution in the years prior to selecting a final remedy). Sampling time points should be based on the expected post-remediation conditions and COC trends to provide an appropriate basis for remedy decisions.

Response: The Region agrees that the sampling frequency in an approved long-term monitoring plan should be developed during remedial design based on the selected remedy and may be modified based on the results from previous sampling events.

- c) CSTAG recommends that MNR monitoring directly address whether natural recovery of sediment PCBs is occurring, in the relevant area, over the specified time frame. Sampling should replicate the proposed baseline effort (recommendation 5a) and be designed to demonstrate the progress toward (or attainment) of remediation goals. The sample distribution and density should be sufficient to calculate SWAC statistics of each SWAC area with certainty for comparison to SWAC PRGs.

Response: The Region agrees that the long-term monitoring plan should describe how sampling will be performed to demonstrate that MNR is being achieved.

- d) CSTAG recommends the Region consider replicating the upstream background areas and fish sampling areas used to support the RI/FS. Lake Logan Martin sampling areas may play a role in decision making for the lake, but they have low relevance as background for Choccolocco Creek. The “CERCLA program fish tissue sampling” investigation was used to depict fish trends in OU4 and risk to receptors in the RI/FS. Gaps in spatial characterization may exist with this design, but sampled fish likely integrate exposures over larger areas and the monitoring program recommended includes comprehensive sediment sampling. As such, retaining this sampling design for fish tissue is a reasonable balance that would provide a longer term, more complete record to evaluate fish tissue COC trends.

Response: The Region agrees that fish monitoring in Lake Logan Martin does not relate directly to fish concentrations in Choccolocco Creek. Replicating the RI fish sampling program to monitor

recovery is one way to conduct monitoring and will be considered when the monitoring program is designed. The Region also agrees that monitoring requirements need to be clearly defined during remedial design.

7. Lake Logan Martin special studies - Recommendation

The EPA's expectation is "Environmental programs performed for, or by, the Agency be supported by environmental data of an appropriate type and quality for their expected use." CSTAG recommends the Region use the data quality objective process to clearly state the objectives of the collection and expected uses in Superfund site decision making. This process will allow the development of study design capable of satisfying the study questions, discerning if objectives have been met, and arriving at a decision regarding whether Superfund activities are necessary in the Coosa River downstream of OU4. The OU4 and downstream monitoring programs should be coordinated and consistent to permit site wide comparisons.

Response: All investigations at the Site have been performed under Agency approved quality assurance project plans that follow the data quality objective process. The proposed special studies for Lake Logan Martin in Appendix B of the FS are conceptual and not a final agency approved plan. Region 4 will follow the data quality objective process to investigate Lake Logan Martin.

8. Community Concerns

CSTAG recommends that the Region consider developing or updating a Community Involvement Plan (CIP) for OU4. The development of the CIP will include identifying and interviewing people in these communities who understand how people may most effectively receive information, including identifying social media options and which communities use these tools. The CIP would clearly document environmental justice factors identified using EJ Screen that the Region would need to understand and integrate into remedy evaluation and communication.

Response: Region 4 agrees that the Site CIP needs to be updated before the OU4 Proposed Plan is released because standard methods of communication are changing in today's society. It should be noted, however, that Region 4 has been interacting with the community throughout the Site, including the community in OU4, for more than 20 years. The OU4 community has been specifically targeted and engaged during the investigation, risk assessment process, and alternative development phase through mailed fact sheets and TA, CAG, and EPA sponsored meetings. Access agreements were required from the residents and property owners in OU4 for the investigation to be conducted. In fact, one of the community advisory group board members lives on Choccolocco Creek, and his property was sampled in the RI..

CONCLUSION

While the Region finds the input from CSTAG valuable and informative for the Site team moving forward, Region 4 disagrees with CSTAG's overall conclusion that the OU4 FS does not support a final remedy. Concerns about MNR calculations can be overcome in remedial design, long-term monitoring and the Superfund Five-Year Review process provides mechanisms to ensure MNR stays on track. A decision to delay selecting a final remedy from the alternatives developed will result in substantial

delays in the ultimate protection of human health and the environment. Moreover, an interim remedy decision will likely be strongly resisted by the community, the PRPs, and possibly questioned by the Court given its significant historic involvement both formally and informally through reviewing and evaluating legal and technical issues raised to the Court by the parties, local stakeholders, and the Court-appointed Special Masters, with the goal of developing practical solutions that facilitate the continued cleanup of the Anniston PCB Site.