DOE-14-0170

I-22033-0002

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DOE OVERSIGHT DIVISION
761 EMORY VALLEY ROAD
OAK RIDGE, TENNESSEE 37830-7072

May 29, 2014

Mr. John Michael Japp
Federal Facility Agreement Manager
Department of Energy
Oak Ridge Operations Office
P.O. Box 2001
Oak Ridge, Tennessee 37831-8540

Dear Mr. Japp

TDEC Comment Letter
Strategic Plan for Mercury Remediation at the Y-12 National Security Complex Oak Ridge, Tennessee (DOE/OR/01-2605&D2)

The Tennessee Department of Environment and Conservation (TDEC) has reviewed the above referenced document pursuant to the Federal Facility Agreement for the Oak Ridge Reservation. This letter provides comments to the parts of the strategic plan that are not addressed by the proposed Outfall 200 treatment. TDEC has concerns that the proposed strategy could lead to additional releases of mercury into the environment, increasing the fraction of the Clinch River watershed where mercury impacts to fish are significant. Consequently, TDEC advocates actions that will minimize future releases of mercury to the environment.

TDEC strongly advocates for mercury recovery from Y-12 buildings and associated media. Recovery of elemental mercury from potential sources by retort or equivalent processes and subsequent containerization is preferred to amalgamation or other stabilization methods. Mercury recovery and containerization addresses principle threat wastes in the form of concentrated mercury in subsurface soils and strata. It also addresses elemental mercury in sorted contaminated concrete, building footers, and surrounding soils. The USEPA commented on the principle threat D2 strategy deficiency in a letter to the USDOE dated May 2, 2014 (Jon R. Richards and Jeffery L. Crane to John Michael Japp).

DOE should carefully evaluate demolition strategies for buildings that have the potential to release significant quantities of mercury into the environment. Demolition of structures prior to removal of potential sources of significant quantities of radioactive isotopes has recently caused radiological releases at ETTP. Similar exit pathways, such as subsurface utilities, allowing water to escape from the demolition site are likely to be present at Y-12 demolition sites. Also similar problems with containment and treatment of storm water contaminated as a result of the demolition are likely to occur. As mentioned (D2 p.45), *areas may be surgically demolished and separated from the bulk of the building debris*. TDEC supports this concept as a prime approach and not a special circumstance for the worst hot spots.

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TDEC strongly advocates waste minimization, reuse, and recycling. With sorting, concrete and steel are acceptable to reuse in new construction. Coordinating mercury recovery with relocation of Y-12 security areas and production facilities would be mutually beneficial in reducing costs through waste reduction and material reuse.

TDEC strongly advocates mercury removal and recovery to elemental form for compliant storage. *Long Term Management and Storage of Elemental Mercury*, EIS (DOE/EIS-0423-S1) provides for *long term management and storage of mercury generated in the United States*.

Outfall 200 treatment should include capture capacity for rainfall events as determined from event driven stream data per TDEC letters to USDOE (May 14, 2014 , October 21, 2013 and August 26, 2013, Roger B. Petrie to John Michael Japp). Current proposed base flow treatment may not affect a positive change in fish tissue concentrations of mercury in Lower East Fork Poplar Creek because event driven releases that bypass the treatment facility may continue to create downstream impacts. These downstream impacts are not limited to the Lower East Fork Poplar Creek but result in constant feed and bioaccumulation of mercury in Poplar Creek, Clinch River, and Watts Bar Reservoir. Capture is a universally necessary part of storm water management during remediation and in industrial and municipal systems. Furthermore, Outfall 200 treatment should be considered together with mercury recovery operations and be developed in a complimentary fashion. Water treatment must be considered as a compliance component of mercury recovery.

We agree with an adaptive management approach to include concurrent decisions on East Fork Poplar Creek, Poplar Creek, and the Clinch River (Watts Bar) OUs. This is because mercury methylation and ensuing uptake is not a completely understood pathway. Concurrent decisions facilitate a more aggressive and complete solution to the mercury problem in public waterways. We must focus on both the sources of the risk and the extent of the risk throughout the watershed. With population growth, it is prudent to resolve the mercury problem in public areas as soon as possible.

Questions or comments concerning the contents of this letter should be directed to Dale Rector at the above address or by phone at (865) 481-0995.

Sincerely

for

Roger Petrie
FFA Project Manager

xc Jeff Crane – EPA
Jon Richards – EPA
David Adler – DOE
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