



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

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July 24, 2020

Fireworks Site Joint Defense Group  
c/o Michelle N. O'Brien, Esq.  
Pierce Atwood, LLP  
100 Summer Street, 22<sup>nd</sup> Floor  
Boston, MA, 02110

RE: **HANOVER - BWSC**  
Release Tracking Number (RTN) **4-0000090**  
Former National Fireworks Facility,  
King Street, **REQUEST FOR REVISED PHASE**  
**III REMEDIAL ACTION PLAN, INTERIM**  
**DEADLINE LETTER**  
Enforcement Document Number  
**00009831**

Dear Attorney O'Brien:

The Massachusetts Department of Environmental Protection (MassDEP or the Department), Bureau of Waste Site Cleanup (BWSC) is tasked with ensuring the cleanup of oil and/or hazardous material (OHM) releases pursuant to Massachusetts General Law Chapter 21E, known as the Massachusetts Oil and Hazardous Material Release Prevention and Response Act (Chapter 21E). This law is implemented through regulations known as the Massachusetts Contingency Plan (310 CMR 40.0000 et seq. – the MCP). Both Chapter 21E and the MCP require the performance of response actions to provide for protection against harm to health, safety, public welfare, and the environment which may result from release and/or threats of releases of OHM.

MassDEP is currently regulating releases of OHM pursuant to Chapter 21E and the MCP at the Former National Fireworks Facility located off King Street in Hanover, Massachusetts (the Facility) and areas proximate to the Facility where OHM from the Facility has come to be located (collectively, the Site). MassDEP has assigned Release Tracking Number (RTN) 4-0000090 to the Site.

On November 9, 1995, MassDEP issued Notices of Responsibility (NORs) to Kerr-McGee Corporation, Susquehanna Corporation, National Coating Corporation (NCC), the Massachusetts Institute of Technology (MIT) and the United States Department of Defense (DoD, which includes the Department of the Army, the Department of the Navy and the Department of the Air Force) identifying each as a Potentially Responsible Party (PRP) for releases of OHM at the Site. NCC and MIT, collectively the Cooperating Parties or the Fireworks Site Joint Defense Group, have retained Tetra Tech, Inc. (Tetra Tech) of Boston, Massachusetts to conduct response actions at the Site pursuant to Chapter 21E and the MCP.

MassDEP has reviewed the document titled "Draft Phase III Remedial Action Plan" (Phase III RAP) dated July 17, 2019, which was prepared and submitted by Tetra Tech on behalf of the Cooperating Parties. Under the MCP, the Phase III RAP describes and documents the information, reasoning and results used to identify and evaluate and, ultimately, select the proposed Comprehensive Remedial Action Alternative which is likely to achieve a Permanent Solution for the Site.

MassDEP has determined that the Phase III RAP has not met the performance standards outlined in 310 CMR 40.0853 and provides the following comments on the Phase III RAP:

1. The Phase III RAP acknowledges that the removal of munitions and explosives of concern (MEC) at the Site is currently being addressed through an Immediate Response Action (IRA) and is therefore not subject to the Phase III analysis. However, the level of MEC removal necessary to achieve an IRA Completion may not be sufficient to achieve a level of No Significant Risk and Permanent Solution for MEC at the Site. Therefore, the Phase III RAP fails to describe or document necessary information, reasoning, and results to support selection of a remedial action to achieve a Permanent Solution for MEC at the Site.

MassDEP has had several discussions with Tetra Tech to clarify the level of MEC removal necessary to achieve a level of No Significant Risk/Permanent Solution at the Site. MassDEP and Tetra Tech are continuing these discussions and are evaluating the current MEC removal activities being performed under the IRA. The level of MEC removal likely to achieve a level of No Significant Risk/Permanent Solution should be documented in the Phase III RAP.

Given that the complete removal of MEC is not likely to be achieved, an Activity and Use Limitation (AUL) prepared pursuant to 310 CMR 40.1070 will be required to establish restrictions or limitations of Site Activities and Uses to achieve and maintain a level of No Significant Risk with respect to the MEC remaining at the Site after response actions have been completed. Although the Town of Hanover has stated that the use of the property will be restricted to passive recreation, the AUL will be necessary to restrict/control certain future activities at the Site such as requiring munitions safety support and, if necessary, removal during any future excavations at the Site. In addition, signage and a public education program will be necessary to educate the general public on how to Recognize, Retreat and Report (the "3Rs Explosives Safety Education Program") potentially explosive ordnance if encountered.

2. The Final Supplemental Phase II Report, dated June 2018, presented analytical results of recent sampling efforts for mercury in sediment and concluded that the nature and extent of total mercury contamination in sediment between the Forge Pond Dam and the Factory Pond Dam has been delineated. In addition, the Final Supplemental Phase II Report calculated a Site-specific Preliminary Remedial Goal (PRG) for total mercury in sediment of 4.0 milligrams per kilogram (mg/Kg). This PRG was determined to be technically defensible and suitably conservative and was therefore recommended for application at the Fireworks Site. In MassDEP's November 28, 2018 Conditional Approval of the Final Supplemental Phase II Report, MassDEP approved this PRG (now the Remedial Goal or RG) for total mercury in sediment at the Site.

However, the concentration of total mercury in sediment samples collected approximately 20 feet from the upstream side of Factory Pond Dam (the samples collected closest to the dam)

ranged from 9.5 mg/kg to 335 mg/kg. There are no data which characterize the extent of total mercury contamination in the sediment immediately adjacent to the Factory Pond Dam. Given that the concentration of total mercury in the sediment samples approximately 20 feet from the dam is well above the RG, the concentration of total mercury in the sediment within 20 feet of the dam is also likely to be greater than the RG. Sediment impacted with mercury at concentrations above the RG must be removed to achieve a Permanent Solution.

The removal of contaminated sediment adjacent to the Factory Pond Dam is of particular concern given the reasonable likelihood that future flood conditions or dam failure could result in sediment with total mercury at concentrations above the RG being re-distributed throughout the Indian Head River system downstream of the Factory Pond Dam.

The Phase III RAP concluded that the Factory Pond Dam is not structurally competent enough to safely allow removal of the sediment adjacent to the dam. Based on the concerns with potentially contaminated sediment adjacent to the dam outlined above, the Phase III Comprehensive Remedial Action Alternative should be revised to include the evaluation of measures to facilitate the removal of potentially contaminated sediment adjacent to the dam, such as shoring/securing the dam during sediment removal or concurrent dam/contaminated sediment removal. When evaluating the removal of the dam, the effects on natural river ecology, re-establishing river continuity, and maintaining public safety and public acceptance should be considered.

If it can be demonstrated that the sediment adjacent to (within 20 feet) of the Factory Pond Dam is not impacted with mercury at concentrations above the RG, then removing the sediment adjacent to the dam does not need to be further considered and documented.

3. To demonstrate that the selected Comprehensive Remedial Action Alternative is achieving the goal of eliminating the impact to fish at the Site, long term monitoring of largemouth bass and perch tissue for mercury, as well as other long term monitoring parameters, should be included with each Comprehensive Remedial Action Alternative presented in the Phase III RAP. Given that mercury bio-accumulates, fish tissue must be monitored over time to demonstrate that the selected Comprehensive Remedial Action Alternative has adequately addressed the ecological and human health risk in the Factory Pond/Indian Head River system. Therefore, a revised Phase III RAP, which includes a sampling plan and cost estimate associated with long-term monitoring (at least 40 years) shall be submitted to MassDEP by the enforceable Interim Deadline specified in this letter.
4. The term "surficial sediment" has been used in various Site documents including Appendix 3D of the Final Supplemental Phase II Report and, more recently, in the Draft Phase III RAP. This term has represented various depths depending on the location of the sampling, for instance, re-baseline sampling was 0-6" in the Eastern Channel Corridor, 0-12" in the Lower Drinkwater River Corridor (LDRC) and down to 24" or 36" in the Lily Pond/Upper Factory Pond (LP/UFP) and Middle/Lower Factory Pond (M/LFP), however, this term has not been quantitatively defined to date. The revised Draft Phase III Report shall define the term "surficial sediment."

### **MERCURY-CONTAMINATED SEDIMENT DOWNSTREAM OF FACTORY POND DAM**

The Final Supplemental Phase II Report prepared by Tetra Tech on behalf of the Cooperating Parties concluded that the Former National Fireworks Site is not the likely source of the mercury in sediment within the Indian Head River Corridor; that the boundary of the Site does not include the Indian Head River Corridor (but rather lies at the upstream side of Factory Pond Dam); and, that the nature and extent of Site contamination has been adequately delineated. MassDEP disagrees with this assertion and in the November 28, 2018 Conditional Approval letter MassDEP stated that the most significant source of mercury in the river sediment downstream of the Factory Pond Dam, particularly given the concentration of mercury in the sediments in Lily Pond and Upper Factory Pond, is from the transport of contaminants and contaminated sediments from the Former National Fireworks Site, Upper and Lower Drinkwater River Corridors, Lily Pond and Factory Pond during periods of high river volume and velocity resulting in the over wash of the Factory Pond Dam. Given this, MassDEP requested that the Cooperating Parties provide a Scope of Work (SOW) for additional sampling of the sediment in the Indian Head River Corridor from the Factory Pond Dam to, and downstream of, the Luddam's Ford Dam. On December 21, 2018, you' on behalf of the Cooperating Parties, replied to MassDEP's request by submitting a letter that reiterated the Cooperating Parties' position and concluding that no additional sediment sampling and analysis for mercury is warranted. In the interest of keeping the cleanup of the highly contaminated sediment in the Factory Pond area moving forward, MassDEP decided not to pursue the Cooperating Parties on this issue at this time.

MassDEP, however, maintains that the elevated concentration of mercury in the sediment downstream of the Factory Pond Dam is attributable to the releases from the Fireworks facility and MassDEP and its contractor are in the process of preparing to collect sediment samples for additional analysis to better evaluate this position. If, based on the additional information when it is available, MassDEP's position remains that releases of mercury from the Fireworks facility have caused or contributed to the mercury in the sediment downstream of Factory Pond Dam, MassDEP will require that a Phase III RAP Addendum be submitted to address the contaminated sediment. It should be noted that MassDEP will be expending funds from the Tronox settlement to conduct this work.

### **REQUEST FOR REVISED PHASE III REMEDIAL ACTION PLAN/INTERIM DEADLINE**

A revised Phase III RAP shall be submitted to MassDEP on or before **September 25, 2020**. The revised Phase III RAP shall include:

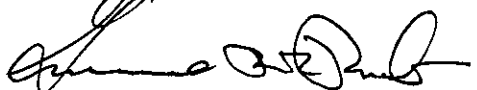
- A proposal and supporting documentation of the level of MEC removal likely to achieve a level of No Significant Risk/Permanent Solution at the Site, including a description of the requirements that will be included in the AUL;
- A proposal to further delineate the mercury-contaminated sediment adjacent to the Factory Pond Dam and/or an evaluation of measures to be taken to facilitate the removal of contaminated sediment adjacent to the Factory Pond Dam, as described above;
- A sampling plan and cost estimate associated with long-term fish, and other parameters, monitoring; and

- A definition of the term "surficial sediment."

**The deadline established above constitutes an Interim Deadline established pursuant to 310 CMR 40.0167.** The Department's decision to establish one or more Interim Deadlines in accordance with 310 CMR 40.0167 is not subject to M.G.L. c. 30A or any other law governing adjudicatory proceedings. Failure to comply with the deadline may result in enforcement actions being taken by the MassDEP. These enforcement actions may include the issuance of a Notice of Noncompliance, an Administrative Penalty, Enforcement Orders, or a referral to the Massachusetts Attorney General's office.

Written or verbal communication regarding this letter should be sent to the attention of Deborah A. Marshall-Hewlitt at the above address or at 508-946-2888. Please reference RTN 4-0000090 and Enforcement Document Number 00009831 in any written correspondence regarding this letter.

Sincerely,



Gerard M.R. Martin  
Deputy Regional Director  
Bureau of Waste Site Cleanup

GM/JW/DM-H/lg

CERTIFIED MAIL # 7019 2280 0002 2136 5402  
RETURN RECEIPT REQUESTED

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