



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

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November 21, 2018

Barnstable County
Attn: Jack Yunits, County Administrator
Superior Courthouse
Barnstable, MA 02630

RE: BARNSTABLE
Release Tracking Number: 4-0026179
Barnstable County Fire and Rescue
Training Academy
155 Flint Rock Road
**NOTICE OF AUDIT FINDINGS /
COMPLIANCE AND TECHNICAL
ASSISTANCE / INTERIM DEADLINE**

Dear Mr. Yunits:

The Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup (MassDEP), is tasked with ensuring the timely assessment and cleanup of oil and hazardous material releases pursuant to Massachusetts General Law (MGL) Chapter 21E (Ch. 21E). The law is implemented through regulations known as the Massachusetts Contingency Plan, 310 Code of Massachusetts Regulations (CMR) 40.0000 et seq. (the MCP).

On October 3, 2018, MassDEP conducted an audit inspection (the audit) at the Barnstable County Fire and Rescue Training Academy (BCFRTA), located at 155 Flint Rock Road, Barnstable, Massachusetts (the Site). The purpose of the audit was to: 1) determine whether the on-going response actions being conducted as an Immediate Response Action (IRA) are being implemented in accordance with the MCP and the IRA Plan submitted to MassDEP on September 27, 2016 and the modified IRA Plan submitted to MassDEP on June 28, 2018; and 2) observe live fire-training activities as they were conducted to evaluate how fire-training water disperses on the property during a training event. These observations were made to gain a better understanding of water flowage during fire-training events in consideration of past releases of per- and poly-fluorinated alkyl substances (PFAS) to the soil at the facility.

The purpose of this Notice is to inform you of the results of the audit and to provide additional compliance and technical assistance relative to actions that can be implemented to reduce the amount of rain water and fire-training water infiltrating through soil with the highest concentration of PFAS. Ultimately, the goal is to reduce the amount of PFAS migrating in the groundwater towards the Mary Dunn Public Water Supply Wells until such time that Comprehensive Response Actions can be completed.

DETERMINATION AND REQUIRED ACTIONS

Groundwater Recovery and Treatment System

In the Notice of Responsibility (NOR)/Request for IRA Plan issued on August 4, 2016, MassDEP requested that Barnstable County expand the existing groundwater recovery and treatment system as part of the IRA to decrease the mass of PFAS in the groundwater migrating towards the Mary Dunn Wellfield. Several issues (such as iron fouling and outdated equipment) relative to optimal operation of the existing system have been documented in the IRA Status Reports submitted by both the Cape Cod Commission and Nover-Armstrong Associates, Inc. (Nover) since the NOR was issued.

Pursuant to 310 CMR 40.0414(5), IRAs shall be presumed to require the prevention of impact(s) to public water supplies at sites where such impact is likely to occur within the time period to implement and/or complete Comprehensive Response Actions. This presumption may be rebutted based upon a showing by a preponderance of the evidence that it is unlikely that the Site will present impacts to the public water supplies for the time period that is likely to be required for the implementation and/or completion of Comprehensive Response Actions; it is not feasible to prevent the impacts to the public water supplies; and in cases where prevention is not feasible, it is not feasible to mitigate the impacts to the public water supply.

MassDEP acknowledges that wellhead treatment has been installed on the Mary Dunn wells which have been impacted with PFAS and that the wellhead treatment, together with operation and optimization of the existing groundwater recovery and treatment system at the BCFRTA and excavation of soil contaminated with PFAS from the Hot Spot Area, addresses 310 CMR 40.0414(5) by preventing and mitigating impacts to the public water supplies from PFAS migrating from BCFRTA. As such, MassDEP is requesting that measures be taken to increase the capacity of the groundwater recovery and treatment system to further reduce the concentration of PFAS in the groundwater from the BCFRTA and/or decrease the concentration of PFAS migrating from BCFRTA, if feasible.

To demonstrate whether it is feasible to increase the capacity of the existing groundwater recovery and treatment system, a focused feasibility evaluation needs be conducted at this time to determine if it is feasible to expand the groundwater recovery and treatment system using the concepts and standards specified in 310 CMR 40.0860. If it is concluded that it is feasible to increase the capacity of the existing groundwater recovery and treatment system, a Modified IRA Plan with a detailed schedule for implementation must be submitted by the deadline established below.

Carbon Replenishment

Timely management of carbon change-out for the current on-Site groundwater recovery and treatment system, and any future expanded system, is important to reduce the number of days the system is off-line, reduce breakthrough of PFAS, and allow for the continued mass removal of PFAS in the groundwater upgradient of the Mary Dunn wells. As stated above, continued mass removal of PFAS from the aquifer will also increase the longevity of the well-head treatment carbon vessels at the Mary Dunn wellfield.

MassDEP has been informed by the BCFRTA that in the past scheduling carbon replacements with the vendor has taken up to one (1) month longer than anticipated. Given that it is important to maintain constant operation of this system MassDEP requests that BCFRTA evaluate and document options that, when implemented, will allow for the timely replacements of carbon, possibly including, but not limited to, procuring a long term contract with a carbon contractor with regular, scheduled carbon deliveries, or potentially staging an extra carbon vessel on-Site. MassDEP acknowledges that many vendors require the vendor to install the carbon vessels to guarantee their effectiveness. MassDEP requires that these options and their feasibility be documented pursuant to 310 CMR 40.0414(5).

Actions to Reduce Infiltration

During the October 3, 2018 audit inspection, hay bales were observed southwest of the burn building on the grassy area to prevent water flowage to the asphalt area that abuts the Hot Spot Area. No water was observed flowing toward the Hot Spot Area or on the abutting asphalt. Standing water from a rain event that occurred the night before the inspection was observed on the asphalt area and on the grassy area near the burn building. Standing water on the grass abutted the hay bales, indicating that overland flow was prevented from the Hot Spot Area. In addition, no water was observed flowing out of the scuppers along the bottom of the burn building during the audit. MassDEP was informed that the floor of the burn building consists of concrete with no floor drains other than the observed scuppers. MassDEP was informed that minimal water is used during a typical training event, and this was confirmed during the audit. An estimated 40 to 50 gallons of water was used by BCFRTA during this 3-hour training exercise.

Based on data provided by BCFRTA, elevated concentrations (311 ng/kg at B-6 and 350 ng/L at B-5) of PFAS in soil exist beneath the grassy area within the training area. An evaluation to limit potential water infiltration from this area should also be completed.

As a way to reduce potential infiltration, MassDEP requests that BCFRTA evaluate the feasibility of placing a more robust cover (such as an asphalt cap or high-density polyethylene) on the soil Hot Spot Area and the grassy area comprising the fire training area until such time that CRAs can be taken. The feasibility evaluation should incorporate a discussion of the volume of water used in fire training events and whether asphalt capping will help or hinder in the goal of preventing exacerbation of contamination and/or future remedial activities. This evaluation should also include a discussion of the feasibility to collect and re-use fire training water and/or storm water. Photographic documentation of water flowage during and after fire training events should be provided as part of the IRA Status Reports submitted to MassDEP.

Monitoring Plan

MassDEP requests that BCFRTA provide a plan to sample and analyze groundwater from specific monitoring wells at and downgradient of the BCFRTA property on a quarterly basis to evaluate conditions over time. The subsequent reports summarizing the sampling results should include an evaluation as to whether rain events and/or fire-training events may be mobilizing PFAS. The chosen monitoring wells should sufficiently represent Site conditions.

Fire Training Activity Schedule

MassDEP requests that BCFRTA provide to MassDEP the schedule for upcoming fire-training activities with estimates of the amount of water to be used. This information will allow MassDEP to observe first-hand any overland flow created during these activities. This schedule should be updated and included in the regularly scheduled IRA Status Reports.

REQUIRED ACTIONS

MassDEP is requiring that each of the actions requested above be addressed in the next IRA Status Report, which is due on or before February 28, 2019. **Therefore, except as noted below, pursuant to 310 CMR 40.0167, MassDEP hereby establishes February 28, 2019 as an enforceable Interim Deadline.** By this deadline you must submit the following within the next IRA Status report:

- An evaluation of the feasibility of expanding (pumping rate and recovery locations) the existing groundwater recovery and treatment system, as described under "Groundwater Recovery and Treatment System" above. If it is determined to be feasible, the next IRA Status report should include an IRA Modification proposing the planned expansion;

- Steps proposed to eliminate or minimize the breakthrough of the carbon vessels used in the groundwater treatment system, including securing a contract with a carbon replacement company to ensure timely change-outs and the feasibility of re-piping the system, as described under "Carbon Replenishment" above;
- An evaluation of the feasibility of installing a more robust cap or other impervious layer over the Hot Spot Area and the Fire Training Area, as described under "Actions to Reduce Infiltration" above;
- A detailed monitoring plan that specifies which monitoring wells will be sampled on a quarterly basis for the purposes of best representing and evaluating changing Site conditions, as described under "Monitoring Plan" above; and
- To allow MassDEP to schedule Site inspections during live training events, MassDEP is requiring that a schedule of upcoming fire training activities with an estimated water usage be provided to MassDEP on a quarterly basis starting with the IRA Status Report/Remedial Monitoring Report (RMR) due to be submitted on **November 30, 2018**.

LICENSED SITE PROFESSIONAL

A copy of this Notice has been sent to Roger Thibault, the LSP-of-Record for this Site.

LIMITATIONS AND RESERVATIONS OF RIGHTS

The Department's findings were based upon the certainty of the information reviewed during the audit and visual observation from the October 3, 2018 Site inspection. These findings do not: (1) apply to actions or other aspects of the Site that were not reviewed in the audit; (2) preclude future audits of past, current or future actions at the Site; (3) in any way constitute a release from any liability, obligation, action or penalty under M.G.L. c. 21E, 310 CMR 40.0000 or any other law, regulation or requirement; or (4) limit the Department's authority to take or arrange, or to require any Responsible Party or Potentially Responsible Party to perform, any response action authorized by M.G.L. c. 21E which the Department deems necessary to protect health, safety, public welfare or the environment.

If you have any questions regarding this letter, please contact Angela Gallagher at (508) 946-2790. Please reference Release Tracking Number (RTN) 4-0026179 in any future correspondence to MassDEP regarding the Site.

Sincerely,



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

GM/AG/lg

CERTIFIED MAIL # 7017 1450 0000 0281 8778
RETURN RECEIPT REQUESTED

ec: Town of Barnstable
Board of Health
Board of Selectmen
Hyannis Water Department
Hyannis DPW

Licensed Site Professional
Roger Thibault, Nover-Armstrong Associates

BCFRTA
Steve Tebo, Assistant County Commissioner

DEP-BOSTON
Gary Moran, Deputy Commissioner
Paul Locke, Assistant Commissioner, BWSC
Nick Child, Chief Emergency Planning and Preparedness Officer

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