

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Cheraw Flood Site
Removal Site Evaluation POLREP



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject: POLREP
Removal Site Evaluation
Cheraw Flood Site
Pecan Drive, Cheraw, Chesterfield County, South Carolina 29520

Latitude: 34.698636° North
Longitude: 079.913505° West

From: Matthew J. Huyser, On-Scene Coordinator
Thru: Matt Taylor, Removal Operations Section
To: James W. Webster, Ph.D., ERRPB
Date: October 16, 2018
Reporting Period: 9/25/2018 – 10/15/2016

1. Introduction

Site Number: C475
Response Authority: CERCLA
Response Type: Time-Critical
Response Lead: EPA
Incident Category: Removal Assessment
NPL Status: Burlington Industries Cheraw Site added to NPL on May 17, 2018

1.1 Site Description

From September 14 through September 16, 2018, Hurricane Florence traveled across South Carolina resulting in historic rainfall in Chesterfield County. Accumulation of storm water overwhelmed drainage ditches and creeks near residential properties in Cheraw and caused flooding in several areas. The presence of PCB-contaminated sediment was found in a surface water path between the former Burlington Industries James Fabrics Plant and the Pee Dee River by the South Carolina Department of Health and Environmental Control (DHEC) in 2016. Localized flooding occurred in some residential yards along this waterway during Hurricane Florence.

A fund-lead time-critical removal action at the Burlington Industries Cheraw Site was initiated on June 6, 2017, and completed on March 14, 2018. The removal action included the excavation of

surface soils contaminated with PCBs which exceeded the EPA RML from 14 residential properties. Play units and sand were also removed from Huckleberry Park. During the removal action, 969 tons of TSCA¹-regulated waste material and 5,988 tons of nonhazardous PCB-waste soil were removed and transported off-site for disposal.

An Administrative Settlement Agreement and Order on Consent (AOC) for Removal Action was signed between the EPA and Highland Industries for a removal action at the Burlington Industries Cheraw Site; the effective date of the AOC is October 23, 2017. The scope of work under the AOC includes the removal of PCB-contaminated soil from the Highland property, the adjacent ditch to a length of approximately 1,900 feet (referred to as the Western Ditch) and Huckleberry Park.

The EPA continues to oversee work conducted by Highland Industries under the AOC. Work in the Western Ditch is scheduled to begin by late October 2018. Between October and December, this work will be conducted adjacent to residential parcels where samples collected after Hurricane Florence identified the presence of PCBs on areas that had been cleaned under the EPA-lead time-critical removal action in 2017.

1.2 Preliminary Removal Assessment/Removal Site Inspection Results

On September 25, 2018, the EPA mobilized resources to inspect areas in Cheraw that were impacted by Hurricane Florence and to collect samples of sediment that may have been deposited by flood water. Representative composite samples were collected from either depositions of sediment or from low-elevation areas in residential yards where flood water was observed. Samples collected in parcels that were previously cleaned under the EPA-lead time-critical removal action in 2017 were sampled in areas that had been completed and restored under the removal action. Sample results reported 11 locations across nine parcels where PCB Aroclor 1254 was measured above the May 2016 EPA Region 4 Regional Screening Level (RSL)² of 240 $\mu\text{g}/\text{kg}$ ³ with a maximum concentration of 460,000 $\mu\text{g}/\text{kg}$. Five of the parcels were previously cleaned under the EPA-lead time-critical removal action in 2017.

1.3 Site Location

The Cheraw Flood Site includes residential properties along the surface water corridor from the former Burlington Industries James Fabrics Plant to the Pee Dee River. Affected areas of the residential parcels include backyards and vegetated areas along the bank of the waterway. Parcels near the headwater are located along Pecan Drive.

The surface water drainage corridor from the former Burlington Industries facility to the Pee Dee River is approximately 3.2 miles long. Storm water from contaminated soils at the facility and nearby residences flows to a drainage ditch that travels northward approximately 1,000 feet where it joins an unnamed intermittent tributary. The tributary flows approximately one mile eastward; along the way it flows adjacent to three ponds but does not inherently pass through any pond system. The third pond was breached during Hurricane Florence and has not been repaired. The tributary then intersects with Wilson Branch, a perennial creek. Wilson Branch flows northeast for approximately 0.5 miles and borders Huckleberry Park, until it intersects with Huckleberry Branch. Huckleberry

¹ Toxic Substances Control Act

² Regional Screening Levels (RSL) are conservative risk-based screening values developed by the U.S. EPA to help identify contaminants of potential concern.

³ RSL for Residential Soil with target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0

Branch is a perennial creek that flows 1.5 miles east and south until it discharges to the Pee Dee River. The corridor is prone to flooding, particularly in residential yards and the public park along Wilson Branch. Huckleberry Park flooded to a depth beyond four feet during Hurricane Florence and again at a depth of approximately two feet just three weeks later during Hurricane Michael.

The ditch that runs between the Pecan Drive residences and the former Burlington Industries facility initiates approximately 350 feet upstream of the discharge pipe of a storm water retention pond on the industrial property. This initial section of ditch is approximately six to ten feet wide with steep banks of two to three feet at a nearly one to one slope. The ditch begins to narrow after the discharge pipe until it reaches an average bed of three to four feet wide and nearly shear banks of approximately 4 feet. The ditch is heavily vegetated along both banks with brush and large trees. The ditch is described by DHEC as having been empty but damp during previous sampling events. During a Site visit following a rain event, the EPA observed water standing in the ditch at depths up to nearly 12 inches in some places. According to the U.S. Department of Agriculture National Cooperative Soil Survey, soils in the area are generally loamy sand which suggests that standing water will infiltrate to ground water between rain events.

Information regarding the history of the Burlington Industries manufacturing facility in Cheraw, South Carolina, and the Site Investigation conducted by DHEC was documented in the April 25, 2017, Action Memorandum and the July 13, 2017, Ceiling Increase Action Memorandum for the Burlington Industries Cheraw Site.

2. Removal Site Evaluation

In 2017, data from the Burlington Industries Cheraw Site were provided to the EPA's Scientific Support Section (SSS) for risk evaluation. SSS subsequently categorized portions of the Site based on PCB concentration and land use setting. The Tier I category consisted of occupied residential properties displaying PCB Aroclor concentrations greater than 10 times the respective EPA Region 4 Removal Management Level (RML)⁴ for residential soil; Tier II consisted of occupied residential properties with PCB Aroclor concentrations greater than the RML.

The residential soil RML for PCB Aroclor 1254 is 3,500 $\mu\text{g}/\text{kg}$. Under the Tier I criteria, 10 times the RML for PCB Aroclor 1254 will be 35,000 $\mu\text{g}/\text{kg}$. At present, there is one residential property which meets Tier I criteria and two residential properties that meet Tier II criteria. There are two additional properties located between a Tier I and a Tier II parcel that contain deposited sediment which exceeds the cleanup goal of 1,000 $\mu\text{g}/\text{kg}$ Total PCBs. These measurements illustrate a hydraulic continuity of flood water impacts across several properties which should be treated as one unit. Additional properties may be added as subsequent sample data are collected and evaluated.

3. Recommendation

Part 302.4 of Title 40 in the Code of Federal Regulations lists PCBs as a hazardous substance under section 102(a) of CERCLA, a toxic pollutant under section 307(a) of the CWA, and as a hazardous air pollutant under section 112 of the CAA. PCBs are also listed as a toxic chemical through section

⁴ Removal Management Levels (RML) are risk-based screening values developed by the U.S. EPA to determine whether sample concentrations are sufficiently elevated that they may warrant a removal action. Exceedance of an RML by itself does not require a removal action, nor does it imply that adverse health effects will occur.

313 of EPCRA and determined to present an unreasonable risk of injury to health and or the environment under section 2605(e) of the Toxic Substances Control Act (TSCA).

Sampling has shown that the Site is contaminated with PCB Aroclor 1254 above the RML for surface soil on residential properties. PCB contamination occurs within residential yards, some of which were previously cleaned during the EPA-lead time-critical removal action in 2017.

Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) lists factors to be considered in determining the appropriateness of a removal action. Paragraphs (b)(2)(i), (iv), (v) and (vii) directly apply to the Site:

300.415(b)(2)(i): Actual or potential exposure to nearby human populations, animals or the food chain from hazardous substances or pollutants or contaminants.

Analytical results from samples collected by the EPA in residential yards reported 11 locations across nine parcels where PCB Aroclor 1254 was measured above the May 2016 EPA Region 4 Regional Screening Level (RSL)⁵ of 240 µg/kg⁶ with a maximum concentration of 460,000 µg/kg. PCB Aroclor 1254 was measured in five locations above the respective EPA RML of 3,500 µg/kg for residential soil.

300.415(b)(2)(iv): High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate.

Following Hurricane Florence, the EPA mobilized resources to inspect areas that were impacted and collect samples of sediment that may have been deposited by flood water. PCB Aroclor 1254 was found in representative composite samples collected from depositions of sediment and from low-elevation areas in residential yards where flood water was observed. PCB Aroclor 1254 was found in areas that had previously been cleaned under the EPA-lead time-critical removal action in 2017. These results illustrate that PCBs within ditch and creek sediments along the surface water corridor can be mobilized by flood water and deposited to adjacent or downstream surfaces.

300.415(b)(2)(v): Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

The surface water drainage corridor at the Site is prone to flooding, particularly in residential yards and the public park along Wilson Branch. Contaminated sediments from the ditch and/or creek may mobilize and deposit upon residential properties during flooding events.

300.415(b)(2)(vii): The availability of other appropriate federal or state response mechanisms to respond to the release.

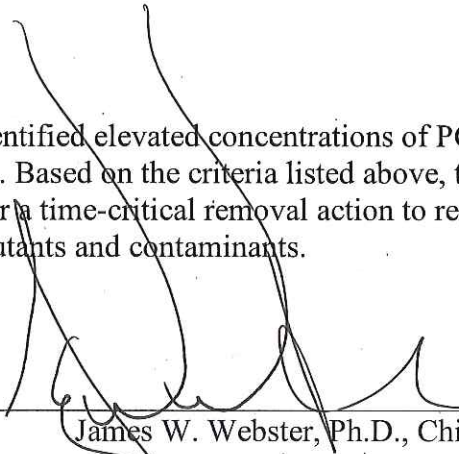
The State of South Carolina does not currently have sufficient funding to complete a response or removal action at the Site.

⁵ Regional Screening Levels (RSL) are conservative risk-based screening values developed by the U.S. EPA to help identify contaminants of potential concern.

⁶ RSL for Residential Soil with target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0

The RSE has identified elevated concentrations of PCB Aroclor 1254 at the Site at concentrations above residential RML. Based on the criteria listed above, the EPA Region 4 ERRPB recommends that the Site be considered for a time-critical removal action to remove and/or prevent migration of hazardous substances, pollutants and contaminants.

CONCUR: _____



James W. Webster, Ph.D., Chief, ERRPB

DATE: _____

10/26/18

NON-CONCUR: _____

James W. Webster, Ph.D., Chief, ERRPB

DATE: _____