



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

ACTION MEMORANDUM

SUBJECT: Request Ceiling Increase for Time-Critical Removal Action at the Bennett Landfill Fire Site in Chester, Chester County, South Carolina

FROM: Matthew J. Huyser, On-Scene Coordinator
Emergency Response, Removal and Prevention Branch

THRU: James W. Webster, Chief
Emergency Response, Removal and Prevention Branch

TO: Franklin E. Hill, Director
Superfund Division

4/30/15
Franklin E. Hill

I. PURPOSE

The purpose of this Action Memorandum is to request additional funding for a removal action at the Bennett Landfill Fire Site (Site) located in Chester, Chester County, South Carolina. The Site continues to pose a threat to public health and the environment that meets the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) section 300.415(b) criteria for removal actions. Site activities were commenced under the attached Emergency Action Memorandum signed November 10, 2014. A ceiling increase is needed in order to continue activities at the Site and to further mitigate the threats to human health and the environment. If approved, this ceiling increase will bring the total project ceiling to \$1,956,000 of which an estimated \$1,300,000 will be funded through the Regional Removal Allowance.

II. SITE CONDITIONS AND BACKGROUND

Site ID: B44Y
CERCLIS ID: SCN000402727
Removal Category: Time-Critical Removal Action

A. Site Description

1. Removal Site Evaluation

On November 2, 2014, the Bennett Industrial Landfill was found to be on fire by local fire department officials. The Emergency Management Agencies (EMA) of Union and Chester Counties responded as well as the South Carolina Department of Health and Environmental Control (SCDHEC). Due to close proximity of the landfill to the town of Lockhart, South Carolina, SCDHEC requested assistance from the U.S. Environmental Protection Agency. On-Scene Coordinator (OSC) Stilman responded along with the EPA's Superfund Technical Assessment and Response Team (START) contractor and began air monitoring activities. On November 3, OSC Stilman observed elevated concentrations of respirable particulate matter sized below 10 microns (PM10) both at the source and at downwind receptors during the course of the response. The Site was known to contain an asbestos disposal cell, and bags of Asbestos Containing Material (ACM) were found throughout the landfill, outside the designated asbestos disposal area, including within proximity of the fire. OSC Stilman informed the owner of the landfill that an emergency action would be necessary to address the on-going fire and potential hazardous substance as well as pollutant and contaminant releases at the Site. The landfill owner declined to undertake the action. Based on the condition caused by the continuing fire and the presence of improperly disposed of ACM within the landfill, the OSC determined that conditions at the Site met criteria listed under 40 CFR 300.415 for initiation of an emergency removal action.

OSC Stilman mobilized the EPA's Emergency and Rapid Response Services (ERRS) contractor to arrive on November 4, 2014, and assist with firefighting operations by providing heavy equipment to open the burn area for water application. Utilizing two excavators and a bulldozer operated by ERRS contractors, along with water spray provided by county and local responders, the fire was mostly extinguished by November 7 and only a small area continued to smolder when response crews demobilized. The EPA's START contractor collected air and bulk material samples to analyze for asbestos. The air sample, analyzed with both Phase Contrast Microscopy (PCM) and Transmission Electron Microscopy (TEM) methods, found no asbestos fibers. The bulk material samples, analyzed using Phase Light Microscopy (PLM), found Chrysotile and Crocidolite Asbestos at varying concentrations of up to 18% and 7%, respectively, in four of the five samples that were collected.

SCDHEC later notified OSC Stilman that persistent smoke was observed at the Site, and it was believed that the fire had not been fully extinguished. The EPA's START contractor mobilized on December 17, 2014, to both monitor particulate readings near residences and collect air samples to analyze for asbestos. The particulate monitor, measuring PM10, reported elevated concentrations early in the morning at approximately 03:00-04:00 hours. Air samples were analyzed using both PCM and TEM methods, and asbestos fibers were not found.

Due to persistent and increasing smoke concentrations emanating from the smoldering fire, SCDHEC requested that the EPA conduct a formal Removal Site Evaluation (RSE). On January 13, 2015, OSC Huyser met with SCDHEC as well as Chester County EMA to discuss past and current conditions at the Site. A walkthrough was conducted, and visible smoke was observed on the western edge of the primary waste pile. Erosion was observed throughout the asbestos disposal cell; deep rills had formed across the entire surface of the cell, which cut through the soft non-vegetated cover thereby exposing asbestos waste at the bottom of the rills.

Pieces of torn asbestos disposal bags and broken pieces of bulk material, likely to contain asbestos, were observed scattered throughout the Site.

On January 27, 2015, OSC Huyser and START mobilized to deploy four particulate monitoring stations to measure respirable particulate matter sized below 2.5 microns (PM_{2.5}) and augment monitoring stations that had been deployed by SCDHEC several days earlier. By February 11, a total of seven monitoring stations had been deployed (four by the EPA and three by SCDHEC). All stations consisted of MetOne EBAM units set to monitor for PM_{2.5} and record both 15-minute and 1-hour time-weighted averages. Five of the stations were outfitted with metrological sensors that included wind speed and direction. Four of the stations were also outfitted with data transmission systems that allowed both the EPA and SCDHEC to remotely observe live data feeds. Results from these instruments were compared to the EPA's Air Quality Index (AQI) and National Ambient Air Quality Standards (NAAQS). Six stations yielded approximately 34% of their 24-hour average results within a "Good" AQI range and yielded 65% of their 24-hour averages in the "Moderate" AQI range, followed by 1% in the "Unhealthy for Sensitive Groups" range (the last range is consistent with the NAAQS 24-hour average for PM_{2.5}). Twenty-four-hour averages for the seventh station, which was located the furthest away from the Site, were 77% "Good" and 23% "Moderate". By comparison, 24-hour averages for the AQI station in Spartanburg, SC were 89% "Good" and 11% "Moderate". Elevated particulate concentrations are typically measured overnight and into early morning hours; these measurements are consistent with both anecdotal reports from residents and visual observations from time-lapse photography, and are caused by reduced wind speeds at night as well as morning temperature inversions which trap smoke close to the ground.

On February 11, 2015, OSC Huyser met with SCDHEC and Chester County to examine the Site with the presence of a landfill firefighting specialist with American Engineering Group LLC. Recommendations for addressing the fire from a response standpoint included three primary actions: 1) Cover; 2) Monitor; and 3) Closure. Advanced firefighting techniques involving the injection of various materials such as nitrogen or traditional firefighting techniques involving water application were not recommended and are unlikely to be successful.

On February 17, 2015, OSC Huyser and START mobilized to collect air, soil and surface water samples as well as conduct an asbestos debris survey and collect aerial imagery. Air sampling within the smoke plume directly above the burning area identified 13 compounds with peak concentrations that exceeded their respective long-term exposure Regional Screening Levels (RSL) and Removal Management Levels (RML)¹: Benzene, 1,3-Butadiene, Chloromethane, Cumene, Ethyl Benzene, Formaldehyde, Naphthalene, Styrene, and Xylene. These values were compared to Acute Exposure Guideline Levels (AEGL), which are published by the EPA Office of Pollution Prevention and Toxics and are used for emergency exposure conditions. None of the 13 chemicals exceeded the lowest AEGL threshold. Hydrogen cyanide (HCN) and carbon monoxide (CO) were also detected within the smoke plume directly above the burning area; neither has a corresponding RSL or RML for ambient air exposure, but both have AEGL criteria.

¹ Regional Screening Levels (RSL) are conservative risk-based screening values developed by the U.S. EPA to help identify contaminants of potential concern. Contaminants that exceeded a RSL in at least one sample are then screened against industrial air Removal Management Levels (RML) that were calculated for this evaluation. RMLs 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 a RML by itself does not require a removal action, nor does it imply that adverse health effects will occur.

Both HCN and CO peak concentrations in the plume exceeded their respective AEGL-2 (8-hour) time-weighted-average (TWA) value which means that health effects may occur in the general population if exposed to the contaminant at that concentration over that corresponding time period. On April 9, 2015, off-site air samples were collected. Of the 13 compounds identified above risk levels in the plume, benzene and formaldehyde were found to exceed residential RSLs in the community. Benzene was found in the fire at concentrations up to 29,000 $\mu\text{g}/\text{m}^3$, more than two orders of magnitude above the Industrial RML of 157 $\mu\text{g}/\text{m}^3$. Benzene was found in the surrounding community at concentrations up to 0.91 $\mu\text{g}/\text{m}^3$, nearly three times greater than the Residential RSL of 0.36 $\mu\text{g}/\text{m}^3$, and also found at the office trailer of the Site at concentrations up to 9.9 $\mu\text{g}/\text{m}^3$. Formaldehyde was found in the fire at concentrations up to 197 $\mu\text{g}/\text{m}^3$, double the Industrial RML of 94.3 $\mu\text{g}/\text{m}^3$. Formaldehyde was found in the community at concentrations up to 1.52 $\mu\text{g}/\text{m}^3$, five times greater than the Residential RSL of 0.216 $\mu\text{g}/\text{m}^3$, and also found at the office trailer of the Site at 3.24 $\mu\text{g}/\text{m}^3$.

Respirable (PM_{2.5}) particulates measured in samples from the smoke plume directly above the burning area peaked at 4,500 $\mu\text{g}/\text{m}^3$. For comparison, the EPA AQI classifies a 24-hour average of PM_{2.5} above 250.5 $\mu\text{g}/\text{m}^3$ as “Hazardous”. Measurements from monitoring stations near the Site and throughout the town of Lockhart recorded 15-min-average readings in excess of 250.5 $\mu\text{g}/\text{m}^3$ at a frequency of 0.1% but did not record 1-hour average readings in excess of this level. Ninety percent of all 15-min-average particulate monitor readings and 95% of all 1-hour average particulate monitor readings are below 45 $\mu\text{g}/\text{m}^3$ which are two orders of magnitude below the peak PM_{2.5} measurement sampled from the burning area. On April 9, 2015, off-site air samples were collected and yielded a 24-hour reading for PM_{2.5} of 78 $\mu\text{g}/\text{m}^3$ in downtown Lockhart, which exceeds the EPA 24-hour NAAQS for PM_{2.5} and is within the EPA AQI range of “Unhealthy” for the general public. However, no PM_{2.5} detections were found above reporting limits on concurrent samples collected at the gas station close to the Landfill or at the office trailer of the Landfill during the same time period, so it is uncertain whether the value measured in downtown Lockhart is directly related to the smoke plume from the fire.

A survey was conducted on the Site to identify asbestos materials in areas outside of the designated asbestos disposal cell. The survey encompassed 125 grids sized 40 by 40 feet (total survey size of more than 4.5 acres) and identified, described, and counted suspected ACM in 42 of the grids (an area of more than 1.5 acres). Samples of suspected ACM were collected in 22 of the grids and PLM analysis showed that 10 of those grid samples contained Chrysotile asbestos at concentrations ranging from 5% to 50%. The designated asbestos disposal cell, which covers approximately 1.6 acres, was not included in the survey since it is known and recognized that the cell area contains exposed ACM. These materials were sampled following the emergency response in November 2014 and identified Chrysotile and Crocidolite Asbestos at varying concentrations of up to 18% and 7%, respectively.

An aerial survey was conducted on February 19, 2015, to conduct volumetric measurements of waste material at the Site. A digital topographic surface was built using photogrammetry from the aerial survey and high accuracy ground control points of known location and elevation. This surface was measured against: 1) the original grade based on the U.S. Geological Service (USGS) 1972 Lockhart, SC quadrangle; and 2) the August 31, 1999, Bennett Industrial Landfill design plans which were digitized and geo-rectified. The survey estimates that there is approximately 19,500 cubic yards of waste in the designated asbestos disposal cell. The remaining landfill waste volume is estimated at 381,000 cubic yards of waste in the last active

disposal area, as well as an additional 333,000 cubic yards of waste in the cell on the south side of the Site where operations ceased sometime between 2005 and 2008. The fire is occurring in the last active disposal cell but there is no visible barrier separating the active cell from the previously used cell. As a result, there are approximately 714,000 cubic yards of waste that is at risk of burning. Disposal records that were submitted by Bennett Industrial Landfill, Inc. to SCDHEC for annual reporting, which are incomplete and have not been verified, report that a known minimum of 423,713 tons of waste was received, at least 3,252 tons of which is known to be asbestos. This number includes only reports from 1999 to 2006, after which regulatory requirements changed and asbestos waste was not stated as a separate line item in annual reports. A common density for waste materials received by the landfill is within the range of 0.6 – 0.5 tons per cubic yard. For the known minimum waste received that was reported to SCDHEC, this density provides a volume range of 706,000 cubic yards to 847,000 cubic yards. The volume range is consistent with the calculated measurements from the aerial survey of 714,000 cubic yards. Therefore, the estimated volume of waste in the designated asbestos disposal cell of approximately 19,500 cubic yards is considered reliable.

The surface of the designated asbestos disposal cell is entirely covered with evidence of erosion including rills in excess of 24 inches deep and 36 inches wide. Exposed ACM is observed throughout the floor of the eroded areas. Erosion features on the cell are less than 30 months old since they were last repaired on August 28, 2012, which was confirmed during a SCDHEC inspection on September 26, 2012. Large asbestos disposal bags and ACM objects are observed in the drainage path up to 350 feet from the disposal cell surrounded in sediment which indicates that washout of the cell is transporting waste downstream. The sedimentation pond, originally designed to a depth of five feet below the drainage riser surface, has filled with sediment to within 2.5 feet of the riser surface. The sedimentation pond was reportedly last cleaned out on August 27, 2012, but the SCDHEC inspection on September 26, 2012, reported that the claims of a cleanout action were either inadequate or false.

2. Physical Location

The Site is located at 4399 Pinkney Road, Chester, Chester County, South Carolina. The geographic coordinates of the Site are 34.7874300° North and 81.4502500° West.

The Site is bordered to the east by Highway 9 and undeveloped land. To the north, approximately 250 feet from the Site property and 850 feet from the actively burning fire, is a gas station and restaurant which is open at least 18 hours per day and appears to be most active commercial facility near Lockhart, SC. To the west, the Site is bordered by undeveloped land but is only 650 feet from the Broad River, which serves as a recreational waterway and eventually contributes to the drinking water source for the City of Columbia, SC. Two small drainage creeks flow towards the Broad River along the north and south borders of the Site property.

The nearest residence in Lockhart, SC is located 1,650 feet from the Site. The town of Lockhart, with a population of approximately 500, is located on the west side of the Broad River with many residences within the narrow river valley and other residences on the bluff to the west. Lockhart primarily grew around the Lockhart Textile Mill which opened in 1893 and was closed shortly after 1995. Available demographic data reported through the EPA's EJSCREEN for a 1-mile radius from the Site indicates that 45% of the nearby population is classified as "Low Income" and 19% is over 64 years of age.

3. Site Characteristics

The Landfill property consists of 47.09 acres with a proposed design landfill construction area of 24.14 acres, of which, an estimated 16 acres has been used for disposal purposes. There is no continuous fence around the property, and the gate at the entrance has been significantly damaged so that it is no longer secure. Structures at the Site consist of a single-wide, pre-manufactured, office trailer and a truck scale located at the north side of the property at the end of a 650-foot driveway.

The last active disposal area is located in the center of the Site and covers approximately 7.5 acres (the permit that was issued to the Landfill allowed for no more than three acres open for disposal at any given time). The northeast corner contains the most recently disposed material which was discarded near the front office trailer after the Site's access roads became impassable due to improper drainage. Discarded material was dropped within 85 feet of the property line which is over the prohibited 100-foot buffer required by the Landfill's permit. The waste volume in the last active disposal area is estimated at 381,000 cubic yards. An inactive disposal area to the south of approximately 6.9 acres appears to be covered with a thin layer of soil and is mostly vegetated with native grasses. Exposed debris is visible throughout the inactive disposal area. The waste volume in the inactive disposal area is estimated at 333,000 cubic yards.

The designated asbestos disposal cell is located to the west side of the Site and is within 40 feet of the property line (permitted buffer is 100 feet). The cell is covered with a layer of un-compacted soil that was reportedly installed or repaired during August of 2012 but contains no vegetation and is heavily eroded. The west and south edges of the asbestos cell consist of an excessively steep grade with heights of 5 to 25 feet. The waste volume in the designated asbestos disposal cell is estimated at 19,500 cubic yards.

4. Release or Threatened Release Into the Environment of a Hazardous Substance, or Pollutant or Contaminant

The fire at the Bennett Industrial Landfill is actively releasing chemical compounds into the air, including benzene and formaldehyde, which are measured near the fire at concentrations exceeding industrial RMLs for air and concentrations within the surrounding community that are greater than three times the residential RSL. Observations during the RSE illustrate that the fire is expanding its footprint and measurements of the landfill indicate that up to 714,000 cubic yards of potential fuel is available to the fire, which will persist for several years if not immediately addressed. The Site is geographically located at an elevation above the nearby town of Lockhart, SC, which sits in a narrow river valley between two bluffs; regular inversion patterns in this area can cause particulates, including airborne asbestos fibers, to become "trapped" for a period of time at the lower elevations. The improper disposal and material management activities at the landfill have left significant quantities of waste and debris (19,500 cubic yards) that contain high concentrations of asbestos (Chrysotile and Crocidolite Asbestos at varying concentrations of up to 18% and 7%, respectively) which are actively being broken and transported by weather conditions. Additionally, activities by operators at the Site have left quantities of waste and debris that contain high concentrations of asbestos (Chrysotile at concentrations ranging from 5% to 50%) scattered across the surface site over an area of approximately 4,000 to 7,000 square yards. Conditions at the Site, if not addressed, will continue

to deteriorate over time and resulting in increasing quantities of exposed asbestos which are susceptible to transport by wind and other weather conditions to the nearby population.

Part 302.4 of Title 40 of the Code of Federal Regulations lists benzene and formaldehyde as *hazardous substances* under section 102(a) of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), *toxic pollutants* under section 307(a) of the Clean Water Act (CWA), and *hazardous air pollutants* under section 112 of the Clean Air Act (CAA). Benzene and formaldehyde are also listed as *toxic chemicals* through section 313 of the Emergency Planning and Community Right to Know Act (EPCRA) and are listed as *hazardous wastes* pursuant to Resource Conservation and Recovery Act (RCRA) section 3001 where benzene is listed for a toxicity characteristic (EPA HW No. D018 in 40 CFR § 261.24(b)) and both benzene and formaldehyde are listed as discarded wastes (EPA HW No. U019 and U122, respectively, in 40 CFR § 261.33(f)).

According to the Agency for Toxic Substances and Disease Registry (ATSDR) 2007 Toxicological Profile for Benzene, long term inhalation exposure to benzene can cause harmful effects to tissues that form blood cells, especially bone marrow. According to the ATSDR 1999 Toxicological Profile for Formaldehyde, irritation of the eyes, nose and throat are the most common reported symptoms of airborne formaldehyde exposure with some people showing greater sensitivity than others. The Department of Health and Human Services (DHHS), the EPA and the International Agency for Research on Cancer (IARC) have identified benzene as a carcinogen and formaldehyde as a probable carcinogen.

Asbestos is listed in 40 CFR § 302.4 as a *hazardous substance* under CERCLA 102(a), a *toxic pollutant* under section CWA 307(a), and as a *hazardous air pollutant* under CAA 112 (asbestos is specifically listed as a hazardous air pollutant under CAA § 112(b)(1) and NESHAP in 40 CFR § 61.01). Asbestos is also listed as a *toxic chemical* through section EPCRA 313.

5. NPL Status

The Site is not on the National Priorities List (NPL).

6. Maps, Pictures and Other Graphic Representations

Maps, pictures and graphical representations of data are provided as attachments to this Action Memorandum.

B. Other Actions to Date

1. Previous Actions

The original permit for a landfill at the Site was issued to Mr. Jerry Pressley on October 29, 1999. This permit was transferred and issued to Bennett Industrial Landfill, Inc. on January 21, 2005. Between January 17, 2012 and August 21, 2012, SCDHEC conducted six inspections at the landfill and recorded consistent violations of failure to install monthly cover, unmanaged erosion in several areas including the asbestos disposal cell, exceedance of permitted 3.5-acre active exposed area limit and exceedance of a 3:1 working face slope limit. During this time, the

landfill operator failed to meet a deadline to provide certification of active exposed area, and SCDHEC issued a Notice of Alleged Violation/Notice of Enforcement Conference. On August 28, 2012, SCDHEC held an enforcement conference with Bennett Industrial Landfill representatives and a deadline of September 21, 2012, was set to meet slope and cover requirements. An inspection conducted on September 26, 2012, reported that the Bennett Industrial Landfill failed to meet this deadline. On October, 3, 2012, Bennett Industrial Landfill proposed a compliance plan for installing measures to meet the regulatory requirements. SCDHEC executed a Consent Order on January 11, 2013, which detailed actions for installing monthly cover, closing excessively exposed areas, certifying exposed areas and correct the active working face. Bennett Industrial Landfill failed to meet the deadlines for each of the required actions of the Consent Order and failed to meet the terms of the Order.

On December 9, 2013, SCDHEC discovered that the financial assurance fund required by regulations governing the operation of a Class II landfill in the State of South Carolina had been withdrawn by the owner several years prior and was not replaced. The bank that previously held the financial assurance funds confirmed that they had been withdrawn in 2008. On January 27, 2014, a SCDHEC inspector observed a large uncovered debris pile of asbestos-containing material outside the asbestos storage cell and near the office trailer of the landfill. SCDHEC collected samples from the material and found debris contained asbestos concentrations of up to 20%. Three following inspections confirmed that the violations continued. Due to repeated failures to comply with compliance requirements, SCDHEC issued a Cease and Desist Order on April 15, 2015, which terminated all waste receipts until financial assurance was obtained and uncovered asbestos debris was moved and covered in the designated cell. The order provided a deadline of 30 days which was not met.

During the emergency response on November 4, 2014, local and county firefighting unit deployed to the Site. SCDHEC responded and requested assistance from the EPA for expanded air monitoring activities. The EPA additionally mobilized equipment to assist with firefighting activities by moving waste materials to improve water application. Additional details of the emergency response and subsequent sampling events are provided in Section II.A.1.

2. Current Actions

SCDHEC and the EPA continue to visit the Site periodically to observe and document deteriorating conditions of the facility and monitor air quality measurements being collected by instruments that remain deployed.

C. State and Local Authorities' Roles

1. State and Local Actions to Date

Section II.B.1 of this memorandum provides an account of several activities that were undertaken or required by SCDHEC while the Bennett Industrial Landfill was in operation. Due to persistent and increasing smoke concentrations emanating from the smoldering fire at the Site, SCDHEC requested that the EPA conduct a formal Removal Site Evaluation (RSE).

2. Potential for Continued State/Local Response

The Lockhart Fire Department, Chester County and Union County have exhausted their financial resources to address the issues at the Site.

The State of South Carolina continues to pursue legal action against the owner of the Bennett Landfill to address the response and closure needed at the Site. However, the State of South Carolina does not presently have resources or funds available to address the most pressing response needs at the Site. The State plans to support response activities by conducting necessary post-removal Site controls.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The EPA Region 4 initiated an emergency response on November 4, 2014, to address the potential release of asbestos from improperly disposed ACM as well as the actual release and potential threat of other materials. The ongoing fire is found to be emitting several chemical compounds of which two, benzene and formaldehyde, have been measured off-site in the nearby community at concentrations exceeding their respective RSLs. In addition, a substantial quantity of improperly disposed asbestos-containing material remains at the Site in a significant and continuously deteriorating state so that the asbestos is not protected from atmospheric influences.

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), (iii), (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.

The fire at the Bennett Industrial Landfill is actively releasing chemical compounds into the air, including benzene and formaldehyde, which are measured near the fire at concentrations exceeding industrial RMLs for air and concentrations within the surrounding community that are greater than three times the residential RSL. The poor management practices of Bennett Industrial Landfill, Inc. have left significant quantities of waste and debris that contain high concentrations of asbestos in an unsecured state. Excessive erosion and deterioration is accelerating across large quantity piles of asbestos waste, transporting materials downstream and causing asbestos to become increasingly exposed to atmospheric influences. Due to lack of ground cover, wind can transport asbestos fibers to nearby businesses and residential neighborhoods.

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

Low wind velocities in the morning and evening hours lead to low dispersion of the fire plume and settling of particulates and associated chemical constituents into the nearby community. Accounts of this daily occurrence are validated by monitoring data and time lapse photography. The Site is geographically located at an elevation above the nearby town of Lockhart, SC, which sits in a narrow river valley between two bluffs; regular inversion patterns in this area can cause particulates,

including associated chemical constituents, to become “trapped” for a period of time at the lower elevations.

Storm events are the primary factor in causing damage to the designated asbestos disposal cell and both exposing and transporting ACM downstream. Visible rills are widespread and significantly deep on the cell. These rills are relatively new, having formed since August of 2012. Weather events will continue to expose and damage asbestos, resulting in increased friability. Asbestos fibers can be transported by wind conditions at the Site which are unimpeded.

300.415(b)(2)(vi): Threat of fire or explosion.

There is an active and uncontrolled subterranean fire at the Site. Observations during the RSE illustrate that the fire is expanding its footprint and measurements of the landfill indicate that up to 714,000 cubic yards of potential fuel is available to the fire, which will persist for several years if not immediately addressed.

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

At this time, there are no other federal or state government mechanisms that are able to respond to this incident in a timely manner and with the resources needed to assume the cleanup.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances and/or pollutants from this Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed Action Description

The requested additional funding outlined in this Action Memorandum will mitigate release or threat of release of hazardous substances associated with the fire and inadequate cover. The scope of work, if approved, will include the following actions:

- Isolation of burning material by removal and relocation of available fuel path and installation of earthen cover;
- Isolation of designated asbestos disposal cell through the installation of earthen cover;
- Re-grading waste materials and native soils for purpose of cover installation;
- Disposal of hazardous and non-hazardous wastes at an off-site location, if needed;
- Installation of temporary measures to prevent off-site migration of dust or contaminants as removal operations are conducted;

- Continue sampling and monitoring, as needed, for site safety purposes and to further delineate or identify contaminants;
- Provide site security during non-working hours; and
- Post-removal site controls, if necessary, to be conducted by the State of South Carolina.

2. Contribution to Remedial Performance

The response actions will, to the extent practicable, contribute to the efficient performance of any long-term remedial action at the Site.

3. Applicable or Relevant and Appropriate Requirements (ARARs)

On-site removal actions conducted under CERCLA are required to attain ARARs, to the extent practicable, considering exigencies of the situation. Off-site removal activities must comply with all applicable federal and state laws, unless there is an emergency. This cleanup is being conducted as a removal action.

A letter to the State of South Carolina requesting identification of State ARARs will be sent immediately following approval of this Action Memorandum. The OSC will continue to coordinate with State officials to identify State ARARs and will evaluate such ARARs in accordance with the NCP.

Federal ARARs identified for the Site that are deemed practicable include:

- NESHAP Asbestos Standard for Waste Disposal for Manufacturing, Fabricating, Demolition, Renovation and Spraying Operations in 40 CFR § 61.150 specifies disposal procedures and emissions standards for removing asbestos containing materials and a majority of its contents will be applicable to on-site activities.
- OSHA Asbestos General Standard in 29 CFR § 1910.1001 specifies permissible exposure limits, engineering controls, worker training, labeling, respiratory protection and disposal of asbestos waste.

4. Projected Schedule

The response action began on November 4, 2014, with the initiation of an emergency response under the OSC's warrant authority. Foregoing unexpected delays, all removal activities listed in section V.A.1 of this memorandum will be complete within six months of the date of approval of this Action Memorandum.

B. Estimated Costs

Extramural Costs:	Current Ceiling:	Proposed Increase:	Proposed Ceiling:
<u>Regional Allowance Costs:</u>			
ERRS	\$ 150,000	\$ 1,150,000	\$ 1,300,000
<u>Other Extramural Costs Not Funded from the Regional Allowance:</u>			
START	\$ 50,000	\$ 200,000	\$ 250,000
USCG GST	\$ 0	\$ 40,000	\$ 40,000
EPA ERT	\$ 0	\$ 20,000	\$ 20,000
CLP	\$ 0	\$ 20,000	\$ 20,000
<u>Subtotal Extramural Costs:</u>	\$ 200,000	\$ 1,430,000	\$ 1,630,000
Extramural Costs Contingency (20%)	\$ 50,000	\$ 286,000	\$ 326,000
TOTAL REMOVAL ACTION PROJECT CEILING:	\$ 250,000	\$ 1,716,000	\$ 1,956,000

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Actual or threatened releases of hazardous substances from this Site, if not addressed by the response action selected in this Action Memorandum, present an imminent and substantial endangerment to public health, welfare and the environment.

VII. OUTSTANDING POLICY ISSUES

Although this response includes measures to address a potential threat from asbestos; the response does not set a precedent as additional primary threats are being abated through implementation of the response.

VIII. ENFORCEMENT

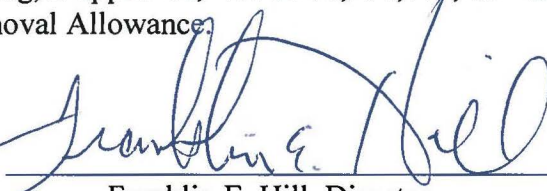
Enforcement activities have been initiated and are ongoing. Please see the attached Enforcement Addendum (Enforcement Sensitive) for further information regarding enforcement activities.

The total EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be \$2,841,286 using the following formula: (Total Extramural Costs + Total Intramural Costs) + (45.26% x (Total Extramural Costs + Total Intramural Costs)) or (\$1,956,000) + (45.26% x (\$1,956,000)).²

IX. RECOMMENDATION

This decision document represents the selected removal action for the Bennett Landfill Site in Chester, Chester County, South Carolina developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the Administrative Record for the Site.

Conditions at the Site continue to meet the NCP Section 300.415(b) criteria for a removal action. I recommend your approval for the proposed action to allow continued removal response. The total projected ceiling, if approved, will be \$1,956,000, of which an estimated \$1,300,000 comes from the Regional Removal Allowance.

APPROVED: 
Franklin E. Hill, Director
Superfund Division

DATE: 4/30/2015

DISAPPROVED: _____
Franklin E. Hill, Director
Superfund Division

DATE: _____

Attachments

² Direct costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of the site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.