



UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

REGION III

STATEMENT OF BASIS

Ashland, Inc.
EPA ID No. VAD 062 373 600
2410 Patterson Ave., S.W.
Roanoke, VA 24016

TABLE OF CONTENTS

| SECTION | PAGE |
|---|------|
| I. Introduction..... | 2 |
| II. Facility Background..... | 3 |
| III. Summary of the Environmental Investigation | 4 |
| IV. Summary of Human Health Assessment | 8 |
| V. Summary of Proposed Remedy..... | 8 |
| VI. Evaluation of EPA's Proposed Decision | 8 |
| VII. Environmental Indicators..... | 9 |
| VIII. Financial Assurance..... | 9 |
| IX. Public Participation..... | 9 |
| X. Index to the Administrative Record | 11 |

I. Introduction

The United States Environmental Protection Agency (EPA) has prepared this Statement of Basis (SB) under the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984 (RCRA), 42 U.S.C. §§ 6901 to 6992k, to explain its proposed remedy for the Ashland, Inc. facility (hereinafter referred to as the Facility). The approximate 1.6 acre Facility is located at 2410 Patterson Avenue S.W. in Roanoke, Virginia, approximately 2.5 miles west of downtown Roanoke.

The Facility is subject to the Corrective Action program under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. §§ 6901 et seq. The Corrective Action program is designed to ensure that certain facilities subject to RCRA have investigated and addressed any releases of hazardous waste and hazardous constituents that have occurred at or from their property. In addition, information on the Corrective Action program as well as a fact sheet for the Facility can be found at <http://www.epa.gov/reg3wcmd/correctiveaction.htm>.

This SB explains EPA's proposed decision that no further actions to remediate soil and groundwater are necessary to protect human health and the environment. This SB proposes to revise the Final Remedy Decision and Response to Comments (Final Decision or FDRTC) for this Facility, dated August 13, 2012. The reason for the revision of the Final Remedy is the recent change on the Risk Based Concentrations (RBCs) for tetrachloroethylene (PCE).

On February 10, 2012, both cancer and non-cancer toxicity values have been revised by EPA for PCE, which has impacted risk estimates, screening levels, and cleanup levels for PCE. The cancer potency estimates declined significantly (i.e., less toxic), while the non-cancer reference values decreased much less in comparison (i.e., more toxic). The final toxicological evaluation supersedes all existing toxicity values provided by other sources, such as the former Regional Screening Levels or RBCs used for the August 13, 2010 FDRTC.

As described more fully in Section X below, EPA is providing a 30-day public comment period on this SB. EPA may modify its proposed remedy based on comments received during this period. EPA will announce its selection of a final remedy for the Facility in the FDRTC after the public comment period has ended.

Before EPA makes a final decision on its proposed remedy for the Facility, the public may participate in the remedy selection process by reviewing this SB and documents contained in the Administrative Record (AR) for the Facility. The AR contains the complete set of reports that document Facility conditions, including a map of the Facility, in support of EPA's proposed decision. EPA encourages anyone interested in this matter to review the AR. The AR is available at the EPA Region III office, the address of which is provided in Section X, below.

EPA will address all significant comments received during the public comment period. If EPA determines that new information or public comments warrant a modification to the proposed decision, EPA will modify the proposed decision or select other alternatives based on such new information and/or public comments and subsequently set forth its final decision in the FDRTC.

II. Facility Background

The Facility is located at 2410 Patterson Avenue, S.W. in Roanoke, Virginia, approximately 2.5 miles west of downtown Roanoke. Ashland, Inc. was formerly a chemical and plastics distribution facility. The Facility began operations sometime between the late 1960s and early 1970s. During this time, chemicals and plastics were received by truck, stored in bulk in containers, and then distributed to customers. On-site storage of chemicals and plastics materials was limited to less than ten (10) days. Transportation to its customers occurred in Facility-owned and operated vehicles which were maintained off-site. The blending of paint thinners was performed at the Facility, but no chemical manufacturing occurred at the Facility.

The Facility maintained 18 above ground storage tanks (ASTs) for product storage. The storage tanks held MEK, acetone, and other solvent type materials. Ashland, Inc.'s Product Tank Farm is surrounded by a concrete dike which ranges in height from 24" to 48", with an approximate capacity of 13,600 gallons. In 1980, Ashland, Inc. submitted a Notification of Regulated Hazardous Waste Management Activity for the Facility along with a RCRA Part A Permit Application to EPA and the Commonwealth of Virginia Department of Environmental Quality (VADEQ).

The Facility's initial Hazardous Waste Management Permit for Storage of Hazardous Waste (in Containers) (hereafter Container Storage Permit) was issued on February 4, 1986, with an expiration date of February 4, 1996 for hazardous waste generated onsite. This permit was administratively continued until its reissuance in 1997, as Ashland, Inc. submitted a permit application in accordance with the Virginia Hazardous Waste Management Regulations (VHWMR) and the governing RCRA Regulations.

On July 29, 1997, the Container Storage Permit was subsequently reissued by the VADEQ, with an effective date of August 30, 1997. On October 22, 1997, the Facility notified the VADEQ of its intention to close the permitted hazardous waste storage facility by correspondence. The Facility anticipated beginning closure activities by December 6, 1997.

VADEQ modified the Container Storage Permit on February 27, 1998, to facilitate closure in a more effective manner than was specified in the reissued 1997 Permit. In addition, VADEQ, on April 30, 1998, modified the Facility's permit to allow a risk-based closure in accordance with the applicable VHWMR regulations.

A Closure Report for the Hazardous Waste Container Storage Area, dated June 19, 1998, and revised May 14, 1999, and closure certifications, were submitted to the VADEQ for the Facility's permitted hazardous waste management unit (HWMU) (Solid Waste Management Unit (SWMU) No. 1, Former Hazardous Waste Container Storage Area). The VADEQ documented the "clean closure" of the hazardous waste container storage area (SWMU No. 1) by approval of the Closure Report and closure certifications by correspondence dated July 25, 2000.

III. Summary of Environmental Investigations

Below is a summary of the investigations conducted of the SWMUs at the Facility.

SWMU No. 1 – Former Hazardous Waste Drum Storage Area

The former Hazardous Waste Drum Storage Area (SWMU No. 1) was an open sided steel structure with a steel roof and 6-inch thick concrete floor and curbing. The storage pad is curbed on three sides and sloped away from an entrance ramp. It was divided into five bays by four internal concrete curbs. Each storage bay was capable of storing a maximum of 2,200 gallons of hazardous waste (forty 55-gallon drums).

On February 4, 1986, a Hazardous Waste Management Permit for Storage of Hazardous Waste was issued to Ashland, Inc. by the VADEQ for the management of hazardous waste at the SWMU No. 1 area. This Permit was reissued by the VADEQ on July 29, 1997.

A Closure Report dated June 19, 1998, and revised on May 14, 1999, and closure certifications, were submitted by the Facility to the VADEQ in connection with SWMU No. 1. Subsequent closure information was provided to the VADEQ by the Facility's consultant by correspondence dated April 28, 2000, and May 19, 2000.

Closure activities included the cleaning of the SWMU No. 1's secondary containment area with a high-pressure washer and non-phosphate soap. The concrete was core-drilled and soil samples were taken and tested to assess potential releases from the secondary containment unit. Based on analytical results from the soil samples, the secondary containment pad and sub-soils were deemed clean in accordance with applicable risk-based closure requirements and no further action was deemed necessary. The VADEQ approved the clean closure of SWMU No. 1 on July 25, 2000 by letter to Ashland, Inc.

SWMU No. 2 – Former Old Waste Storage Areas

The four container storage areas listed under this SWMU No. 2 were utilized by the Facility on an interim or temporary basis for the storage of hazardous waste in containers while the Facility awaited final permit approval from VADEQ. According to a 1989 Closure Certification Report, four of five container storage areas located in and around the warehouse that had been previously used by the Facility were closed, including:

- Warm Warehouse Area
- Inside of Rear Warehouse Area
- Loading Dock (South of Building)
- Outside Southwest Corner of Building Area

These four areas were pressure-washed by the Facility and subsequently deemed to be clean closed by an October 2, 1996 VADEQ correspondence to the Facility. The fifth storage area, SWMU No. 5, did not receive such approval by VADEQ and is discussed below.

SWMU No. 3 – Former Elementary Neutralization Tank

The Former Elementary Neutralization Tank (SWMU No. 3) was removed in May 1997 because drums were no longer washed at the Facility. According to VADEQ, SWMU No. 3 met the definition of a tank, was an elementary neutralization unit and met the elementary neutralization unit exemption of RCRA under 40 CFR 264.1(g)(6). Therefore, SWMU No. 3 was exempt from RCRA Permitting requirements. No evidence of a spill nor release was found during the October 2007 VADEQ/EPA site visit or was any evidence of spills or releases discovered during a 2007 review of VADEQ and EPA files.

SWMU No. 4 – Former Neutralization Pit (Old Neutralization Pit)

In 1985, a Former Neutralization Pit was dismantled and removed during the construction of SWMU No. 3. No evidence of a spill or release was found during an October 2007 Facility visit conducted by EPA and VADEQ or in the files reviewed by EPA at the VADEQ or USEPA Region III offices. Facility representatives are unaware of any spills or releases from the Former Neutralization Pit and had no information regarding any spills or releases in the Facility files.

SWMU No. 5 – Former Hazardous Waste Container Storage Area (Southeast Area)

The Former Hazardous Waste Container Storage Area located at the southeastern corner of the warehouse, SWMU No. 5, did not receive approval for clean closure as did the four areas that comprised SWMU No. 2. Closure reports issued by the Facility indicated that soil screening results revealed the presence of volatile organic compounds. Therefore, additional soil sampling was recommended to better define the extent and concentration of soil contamination in this area.

During the 1989 Facility investigation of SWMU No. 5, four soil borings were drilled and sampled to a maximum depth of four feet. These soil borings were located in the center of the unit and on three sides (north, east, and south sides). Borings were not drilled on the west side of SWMU No. 5 as that area abuts the warehouse and loading dock and is not accessible. Results of the investigation indicated that shallow soils were impacted with volatile organic compounds (VOCs) including tetrachloroethylene (PCE), trichloroethylene (TCE), benzene, 1,1,1-trichloroethane, trans-1,2-dichloroethene, toluene and a few other compounds. However, of the positive results, only PCE and TCE were identified above the respective RBC¹s for industrial soils. PCE was identified above the RBC in eight out of twenty samples and TCE was identified above RBCs in two of the twenty samples collected. In order to complete the environmental assessment for the property, EPA requested that Ashland, Inc. conduct additional soil sampling at the SWMU No. 5 location. Ashland, Inc. accepted EPA's offer to complete the work under Region III's Facility Lead Program. The investigation was conducted in December 2009 in accordance with the

¹ As of the 1989 Facility investigation the RBCs for PCE were .55 mg/kg for Residential Soil and 2.6 mg/kg for Industrial Soil. On February 10th 2012 EPA's Integrated Risk Information System (IRIS) program posted the final toxicological evaluation for tetrachloroethylene (PCE) on the IRIS database (<http://www.epa.gov/IRIS/subst/0106.htm>) revising toxicity values that impacted risk estimates, screening levels, and cleanup levels for PCE. The resulting and current RBCs for PCE are 22 mg/kg for Residential Soil and 110 mg/kg for Industrial Soil.

Sampling and Analyses plan approved by EPA in November 2009. Sampling activities consisted of installing five soil borings in the area of SWMU No. 5 and one soil boring at a background location. Direct-push (Geoprobe®) soil sampling techniques were used to collect soil samples from these locations. The samples were analyzed for VOCs, semi volatile organic compounds (SVOC), metals, pH, formaldehyde, isopropyl alcohol and methanol.

Only PCE and trichloroethylene TCE were found in excess of the industrial RBCs during the 1989 sampling event. The maximum detections of both constituents were found in one sample at a depth of one foot, at concentrations of 120 mg/kg and 61 mg/kg, respectively. The results of the 2009 sampling event identified no contaminants, in excess of the current RBC² for residential use. Additionally, detections of arsenic were above the industrial RBC, but were determined to be reflective of background concentrations and therefore, not considered further.

By comparing PCE concentrations in a soil sample taken at a three to four foot depth during the 2009 Facility investigation versus the four soil borings taken during the 1989 Facility investigation it appears that PCE concentrations in the Facility soils are naturally attenuating. A sample collected from a depth of approximately three feet during the 1989 sampling event revealed PCE at a concentration of 2.90 mg/kg, however, the concentration of PCE detected in a sample at an approximately three foot depth during the 2009 sampling event was only .15 mg/kg, well below the RBC. This may be indicative of the occurrence of natural attenuation of VOCs, which would be expected given the volatile nature of the compounds and the length of time between sampling events.

SWMU No. 5 is currently an asphalt covered area located outside at the southeastern corner of the warehouse. Nothing is presently stored at this location.

SWMU No. 6

SWMU No. 6 is located adjacent to the property line on the southwest corner of the Facility. The area is mid-way between two buildings, namely the warehouse and a one-story office building located on a neighboring property. Information in EPA files indicated that in 1973, the Facility may have buried four to five 55-gallon drums containing aqueous sulfuric acid and sludge in this area. Ashland Inc. further investigated this area and concluded that there were no signs of drum disposal or related soil contamination.

Further, during a 2007 EPA Site Inspection, no evidence of a spill or release was found. Facility representatives are unaware of any spills or releases from this unit and had no information regarding any spills or releases in facility files.

SWMU No. 7 – Former Paint Spray Booth

While it was operational, the Former Paint Spray Booth was equipped with fans and filters for paint capture. During a 2007 EPA Site Inspection, no evidence of a spill or release was found nor was any evidence of a spill or release found in the files reviewed at the VADEQ or EPA Region

2 See Footnote Number 1

III offices. Facility representatives are unaware of any spills or releases from this unit and had no information regarding any spills or releases in the Facility's files.

SWMU No. 8 – 10 Days or Less Accumulation Area

SWMU No. 8 is an approximately 15 feet by 20 feet area located inside the warehouse which has a forty (40) 55- gallon drum capacity. There are no floor drains in the vicinity of SWMU No. 8 and spill equipment was readily available. According to Facility representatives SWMU No. 8 had been active for 3 to 4 years. No evidence of a spill or release was found during the 2007 EPA/VADEQ Facility visit or in the files reviewed at the VADEQ or USEPA Region III offices. Facility representatives are unaware of any spills or releases from this unit and had no information regarding any spills or releases in Facility files.

SWMU No. 9 – Former Fuel Oil Underground Storage Tank

The former fuel oil underground storage tank that contained No. 2 fuel oil was located underground on the north side of the Facility office building. Facility personnel estimate that the tank was removed in the early 1990s. No evidence of a spill or release was found during the 2007 EPA/VADEQ Facility visit or in the files reviewed at the VADEQ or USEPA Region III offices. Facility representatives are unaware of any spills or releases from this unit and had no information regarding any spills or releases in Facility files.

SWMU No. 10 – Dumpster

The Facility maintains one dumpster for plant refuse consisting of cardboard and office refuse. No evidence of a spill or release was found during the 2007 Facility visit or in the files reviewed at the VADEQ or USEPA Region III offices. Facility representatives are unaware of any spills or releases from this SWMU and had no information regarding any spills or releases in Facility files.

SWMU No. 11 – Satellite Accumulation Area

The Facility operated one Satellite Accumulation Area in the Product Tank Farm outside of the warehouse. This area is contained within the Facility dike, and is paved with concrete. No evidence of a spill or release was found during the 2007 Facility visit or in the files reviewed at the VADEQ or USEPA Region III offices. Facility representatives are unaware of any spills or releases from this SWMU and had no information regarding any spills or releases in Facility files.

IV. Summary of Human Health Assessment

On April 16, 2010, a human health risk assessment conducted by EPA showed that, in fact, none of the complete pathways evaluated was found to have either individual or cumulative carcinogenic or noncarcinogenic risks in excess of those considered protective by EPA.

It should also be noted that the analytical results for the organic compounds found in the soils from the 2009 sampling event revealed concentrations that were considerably less than the concentrations for the same compounds found in the soils from the 1989 sampling event. This decrease in contaminant concentrations would indicate that the contamination is naturally attenuating with time.

V. Summary of Proposed Remedy

EPA's proposed decision consists of no further actions to remediate soil, groundwater or air contamination are necessary for the protection of human health and the environment for any future use of this property.

VI. Evaluation of EPA's Proposed Remedy

This section provides a description of the criteria EPA uses to evaluate proposed remedies under the Corrective Action Program. The criteria are applied in two phases. In the first phase, EPA evaluates three criteria, known as Threshold Criteria. In the second phase, EPA uses seven balancing criteria to select among alternative solutions, if more than one solution is proposed. The Facility has demonstrated that the current conditions meet the threshold criteria established by EPA and because EPA is not selecting among alternatives, an evaluation of the balancing criteria is not necessary.

The following is a summary of EPA's evaluation of the Threshold Criteria:

1. Protect Human Health and the Environment - EPA's proposed remedy protects human health and the environment from exposure to contamination for any future use of this property.

2. Achieve Media Cleanup Objectives - EPA's proposed remedy meets the appropriate cleanup objectives. Environmental sampling activities conducted in 1989 and 2009 have revealed levels of contamination that are below RBC values for the protection of human health and the environment for any future use of this property.

3. Remediating the Source of Releases - In all remedy decisions EPA seeks to eliminate or reduce further releases of hazardous wastes or hazardous constituents that may pose a threat to human health and the environment. Since this Facility is no longer operating there are no continuing activities to generate new contaminant sources. Based on the analytical results of samples collected during the 1989 and 2009 sampling events, the concentrations of contaminants in subsurface soils appear to be decreasing through natural attenuation.

VII. Environmental Indicators

EPA sets national goals to measure progress toward meeting the nation's major environmental goals. For Corrective Action, EPA evaluates two key environmental indicators for each facility: (1) current human exposures under control and (2) migration of contaminated groundwater under control. EPA has determined that the Facility met these indicators on September 15, 2010.

VIII. Financial Assurance

EPA has evaluated whether financial assurance for corrective action is necessary to implement EPA's proposed decision at the Facility. Given that EPA's proposed decision does not require any further engineering actions to remediate soil, groundwater or indoor air contamination at this time. EPA is proposing that no financial assurance be required.

IX. Public Participation

Before EPA makes a final decision on its proposal for the Facility, the public may participate in the remedy selection process by reviewing this SB and documents contained in the Administrative Record (AR) for the Facility. The AR contains all information considered by EPA in reaching this proposed decision. The Administrative Record is available at the following locations:

U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103
Contact: Leonard Hotham
Phone: (215) 814-5778
Fax: (215) 814-3113
Email: hotham.leonard@epa.gov

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| Roanoke Public Library | Hours |
| Raleigh Court Branch 2112 Grandin Road SW | Sunday & Monday Closed |
| Roanoke, VA 24015-3528 | Tuesday 10:00 a.m. - 8:00 p.m. |
| Phone: (540) 853-2240 | Wednesday & Thursday 10:00 a.m. - 6:00 p.m. |
| Fax: (540) 853-1783 | Friday & Saturday 10:00 a.m. - 5:00 p.m. |
| Raleigh.Library@roanokeva.gov | |
| Branch Manager – Dianne McGuire | |

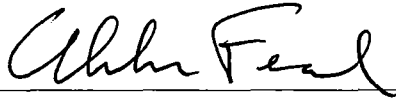
Interested parties are encouraged to review the AR and comment on EPA's proposed decision. The public comment period will last thirty (30) calendar days from the date that notice is published in a local newspaper. You may submit comments by mail, fax, or e-mail to Leonard Hotham. EPA will hold a public meeting to discuss this proposed decision upon request. Requests for a public meeting should be made to Leonard Hotham.

EPA will respond to all relevant comments received during the comment period. If EPA determines that new information warrant a modification to the proposed decision, EPA will modify

the proposed decision or select other alternatives based on such new information and/or public comments. EPA will announce its final decision and explain the rationale for any changes in a document entitled the Final Decision and Response to Comments (FDRTC). All persons who comment on this proposed decision will receive a copy of the FDRTC. Others may obtain a copy by contacting Leonard Hotham at the address listed above.

Date:

11/14/12



Abraham Ferdas, Director
Land and Chemicals Division
US EPA, Region III

X. Index of the Administrative Record

1. Memorandum. R. M. Anderson to R.C. Sterrett. Memorandum regarding buried drums. October 7, 1985.
2. Results of Additional Closure Sampling, Ashland Chemical Company, Roanoke, Virginia. Prepared by: Westinghouse Environmental Services. April, 1989.
3. Final RCRA Corrective Action Site Visit Report USACE Contract No. W9122BU-04-D-0001. Prepared by Tetra Tech EC, INC. February 12, 2008.
4. Supplemental Soil Sampling, Ashland Inc. Prepared by Ashland, Inc. February 8, 2010.
5. Risk Assessment Letter Report for Ashland Chemical. Prepared by Stantec Consulting Corp. April 16, 2010.
6. EPA Region III screening levels (SLs) from risk based tables that are based on Human Health Risk. May 2012.
7. Final Decision Response and Response to Comments August 13, 2012.