



UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

REGION III

STATEMENT OF BASIS

NewChem, Inc. Facility
Newell, Hancock County, West Virginia
(WVD074968413)

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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. §§ 6901-6992k, to explain its proposed remedy for the NewChem, Inc. Facility (NewChem). The Facility is located at 7743 Ohio River Boulevard in New Cumberland, West Virginia 26048.

The Facility is subject to EPA's Corrective Action program under the Solid Waste Disposal Act, as amended, commonly referred to as the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901 *et seq.* The Corrective Action Program requires that facilities subject to certain provisions of RCRA, investigate and address releases of hazardous waste and hazardous constituents, usually in the form of soil or groundwater contamination, that have occurred at or from their property.

After reviewing all available Facility data, including information gathered during site visits, EPA is proposing enhanced anaerobic bioremediation for contaminated groundwater and Institutional Controls as the remedy for the Facility. Enhanced anaerobic bioremediation is the practice of adding hydrogen (an electron donor) to groundwater and/or soil to increase the number and vitality of indigenous microorganisms performing anaerobic bioremediation (reductive dechlorination) on any anaerobically degradable compound or chlorinated contaminant. The proposed remedy consist of three main elements; first, the introduction of a compound at select monitoring wells to accelerate the treatment process; second, monitoring to ensure that groundwater contamination is not migrating off-site at concentrations that exceed respective cleanup levels (that is, the respective Maximum Contaminant Levels, or MCLs, codified at 40 C.F.R. Part 141 and promulgated by EPA pursuant to the Safe Drinking Water Act, 42 U.S.C. §§ 300f *et seq.*) and that concentrations of contaminants continue to be reduced, until MCLs are achieved and finally, the implementation of Institutional Controls to minimize the potential for human exposure to on-site contamination and to protect the integrity of the remedy.

EPA is providing a 30-day public comment period and is hereby soliciting public comment on EPA's proposed remedy prior to making the final remedy selection. The information presented in this SB can be found in greater detail in the reports submitted by the Facility to EPA and to the West Virginia Department of Environment (WVDEP). To gain a more comprehensive understanding of the RCRA activities that have been conducted at the Facility, EPA encourages the public to review these documents which are found in the Administrative Record. The Administrative Record and index are available for public review at the EPA Region III Office in Philadelphia and are also located at Swaney Memorial Library, 100 Court Street, New Cumberland, West Virginia.

The public may participate in the remedy selection process by reviewing this SB and documents contained in the Administrative Record and submitting written comments to EPA during the public comment period. Public participation is discussed in further

detail in Section VI, below. EPA will address all significant comments submitted in response to the proposed remedy described in this SB. EPA will make a final remedy decision and issue a Final Decision and Response to Comments (FDRTC) after it considers information submitted during the public comment period. If EPA determines that new information or public comments warrant a modification to the proposed remedy, EPA may modify the proposed remedy or select other alternatives based on such new information and/or public comments.

II. Facility Background

The Facility is situated in Hancock County, West Virginia approximately 3.5 miles southwest of Newell, West Virginia, adjacent to West Virginia State Route 2. The Facility comprises 13.71 acres, approximately six acres of which comprise the manufacturing portion of the Facility. The remainder of the Facility is wooded. The manufacturing portion of the Facility consists of a production area that is gated and fenced and a drum storage area located west of the production area, also gated and fenced. The Facility is relatively flat with a steep hillside at the western edge of the property that leads down to a gravel quarry and ponds remaining from quarrying operations. The Ohio River is located approximately 0.5 mile west of the Facility. North of the Facility is White Oak Run which discharges to Dry Run, a tributary of the Ohio River. Marsh Bellofram Corporation, a manufacturer of air regulators, electro-pneumatic transducers, air cylinders, diaphragm seals, gauges, and thermometers is located north of White Oak Run. East of the Facility is State Route 2 which provides access to the Facility. South of the property is wooded land owned by the Mountaineer Race Track and Gaming Resort (MTR).

The Facility is currently being operated by NewChem, a subsidiary of Deltech Resins Company. NewChem performs custom organic chemical manufacturing, solvent recovery and drying, as well as production of powder biocides. The primary Facility features are as the follows:

- Laboratory and service building,
- Warehouse,
- 13,400 square-foot clean water storage reservoir,
- Process buildings,
- Two bulk storage tank farms encompassing approximately 20 above-ground storage tanks (ASTs)
- Support building including shop, compressor room, and boiler room, and
- Hazardous waste drum storage pad.

III Summary of Environmental History

Industrial activity began on the Facility in the fall of 1956 when Koppers Company purchased the property and built a plant for the manufacture of coal-tar

derivatives. In 1966, the plant was purchased by Custom Chemicals who converted the plant to specialty chemicals manufacturing. The plant was purchased by Antox, Inc. in 1969 and was later sold to General Investors, Inc. in 1974 and then to Southwest Specialty Chemicals, Inc. in 1979. Since the mid 1960's, only organic chemicals have been produced at the plant.

In 1979, Thiokol-Specialty Chemicals Division (TSCD) operated at the Facility as a subsidiary to, and under the ownership of, Southwest Specialty Chemicals, Inc. Beginning on November 19, 1980, TSCD operated the plant as a hazardous waste management facility. TSCD retrofitted the plant for use in herbicide manufacturing, making primarily acifluoren and pendimethalin under the trade names of "Blazer" and "Prowl" respectively. RCRA inspections by WVDEP during this time period revealed poor waste management practices such as open and leaking drums, stained soils, and discolored pools of standing water. Operations by TSCD were discontinued in 1982 after the company merged with Morton-Norwich, Inc. to create Morton Thiokol, Inc. The Facility remained under the ownership of Southwest Specialty Chemicals, Inc. The Facility was operated by Morton Thiokol, Inc. for only two years. RCRA inspections conducted by WVDEP during this time period documented poor waste management practices similar to those of TSCD.

In 1984, the Facility was purchased by Newell Specialty Chemicals, Inc. (Newell). Multiple RCRA violations associated with drum labeling and storage requirements were cited by WVDEP and EPA during their operational history.

In 1993, Newell voluntarily filed for relief pursuant to Chapter 11 of the United States Bankruptcy Code. In 1996, Newell subsequently elected to liquidate its assets pursuant to Chapter 7 of the United States Bankruptcy Code.

From June 1993 through May 1996, EPA Region III directed Comprehensive Environmental Response Compensation and Liability Act ("CERCLA") emergency response activities at the Facility. A total of 1,980 full drums were located at the Facility. Approximately 200 of the 1,980 drums were reportedly leaking onto the ground. Thiokol-Specialty Chemicals, Inc. personnel conducted waste transfer and clean-up activities. All hazardous and non-hazardous waste drums were removed from the site. It was estimated that 100 cubic yards of material and/or contaminated soils were also removed during remediation activities. In May 1996, Newell was issued a "Cease and Desist Order" from the WVDEP. A bankruptcy trustee was appointed to oversee closure of the Facility.

On August 1, 1997, a group of investors formed NewChem, Inc. and purchased the Newell Facility and its assets during the pendency of the bankruptcy. As part of the purchase agreement with Newell, NewChem assumed all environmental liability for the Facility including the waste generated by Newell. NewChem began operating as a specialty chemical manufacturing facility. Services provided by NewChem included custom chemical manufacturing, solvent recovery, and production of powder biocides.

At the request of WVDEP for assistance in assessing environmental impacts at the Facility, in 2002 EPA issued an Administrative Order of Consent (“Consent Order”) to NewChem under Section 3008(h) of RCRA. The Consent Order required NewChem to conduct a site-wide environmental investigation to determine sources and extent of any contamination and to conduct interim measures, as necessary, at the Facility.

In addition to data collected by NewChem as part of the Consent Order, data and investigation reports generated by a 2006 CERCLA Listing Site Investigation conducted by WVDEP and other facility information compiled by EPA and WVDEP were reviewed by EPA during the preparation of this SB.

IV. Summary of Environmental Investigations and Analytical Results of Soil, Groundwater, Surface Water and Sediments

Soil, groundwater, surface water, and sediment data from sampling events revealed mostly low levels of a variety of metals, volatile and semivolatile organics and pesticides. For surface waters and sediments no contaminants of concern were identified in these media.

A. Soils

For soils, most contaminant detections were below industrial Region 3 Risk-Based Screening concentrations (RBCs). With the exception of pendimethalin in one sample (reported at a concentration exceeding the residential RBC), all pesticides were measured at concentrations below both residential and industrial screening concentrations for soil. Inorganics reported in soil samples at concentrations exceeding residential soil RBCs included arsenic (up to 17.5 mg/kg), manganese (up to 15,500 mg/kg), and vanadium (up to 164 mg/kg). Both manganese and vanadium concentrations were below industrial soil RBCs. Measured arsenic concentrations exceeded both residential and industrial RBCs. However, an International Journal of Soil, Sediment and Water document, has indicated that the Background Threshold Value (BTV) that characterizes the background dataset, and can be used for back ground evaluations, has identified a BTV range of (14.9 to 18.1 mg/kg) for arsenic in West Virginia soils. The arsenic found on site falls within this range.

B Groundwater Investigation

Groundwater samples collected in May 2006 and in November 2009 by WVDEP and NewChem, respectively, revealed concentrations of trichloroethene (TCE) that exceeded the Maximum Contaminant Level (“MCL”) codified at 40 C.F.R. Part 141 and promulgated pursuant to the Safe Drinking Water Act, 42 U.S.C. 300f *et seq.* in site-adjacent well sample MW-MP6 (31 ug/l) and on-site well MW-2D (12 ug/l). Additional volatile and semivolatile contaminants including chlorobenzene (up to 49 ug/l), 4-chloroaniline (up to 140+ ug/l), caprolactam (up to 200+ ug/l), isopropyl benzene (up to 24 ug/l), and 1,1,1-trichloroethane (up to 3.4 ug/l) were also reported in on-site and site-adjacent groundwater samples. Reported concentrations of these five contaminants were

below MCLs (where available) and/or tapwater RBCs. Traces of the pesticides 2,4-DB and acifluorfen were reported in on-site well MW-7 at respective concentrations of 2.2 ug/l and 1.1 ug/l. These concentrations are below tapwater RBCs of 290 ug/l for 2,4-DB, and 470 ug/l for acifluorfen. Endosulfan II, methoxychlor, and endrin ketone were also measured in groundwater at on-site well (MW-2) at concentrations of 0.22 ug/l, 0.15 ug/l, and 0.070 ug/l, respectively. The reported concentration of methoxychlor is well below the tap water RBC of 180 ug/l for this compound. One monitoring well, 6D, was not accessible for sampling during the May 2006 and the November 2009 sampling events due to a blockage within the well casing. This problem was corrected and the well was sampled in May 2010.

The May 2010 sampling of monitoring well 6D revealed the presence of TCE (3.51ug/l) below the EPA Safe Drinking Water MCL. Concentrations of dissolved phase lead were detected below the Safe Drinking Water Action Level for this metal; however, concentrations of dissolved phase manganese were detected above the Secondary MCL. EPA National Secondary Drinking Water Regulations are non-enforceable guidelines that only regulate contaminants that may cause cosmetic effects or aesthetic effects to the drinking water.

C. Human Health Risk

During EPA's 2006 comprehensive sampling event, soil data collected at the Facility were also evaluated by EPA to determine, based on concentrations of VOCs, SVOCs, pesticides and metals, if the property is considered within acceptable limits regarding contamination for its intended use for industrial/commercial purposes. The results showed that no potential pathway of exposure to human health or to the environment exists at the Facility. Therefore, additional soil sampling was not required at the Facility.

Analytical results from groundwater sampling events during 2006, 2009, and 2010 revealed TCE at 31 ug/l in well MW-MP6 located on property adjacent to the Facility and at 12 ug/l in the on-site well MW-2D, slightly exceeding the MCL for TCE. However, groundwater at the Facility and in the Facility's immediate vicinity is not used for drinking water purposes. Other groundwater wells in the area are up-gradient of the Facility and did not reveal contamination when they were sampled during site related environmental investigations. Furthermore, a monitoring well (MW-MP5) located several hundred feet down-gradient of the contaminated wells revealed no organic contamination, thus indicating that the contamination is decreasing through natural degradation processes before reaching the down-gradient well.

D. Summary of Ecological Risk Assessment

The topography in the area of the Facility is characterized by a steep drop in a westerly direction from the Facility to the Ohio River which is located approximately one half mile from the Facility. The adjoining property, currently occupied by the Mountaineer Race Track and Casino, is owned by the MTR Gaming Group, Inc. ("MTR

property”), which leases a section of its property for quarrying operations. The ecological features identified on the adjoining Mountaineer property are a mixed hardwood upland sloping down approximately 60° to two man-made ponds created by quarrying operations. The larger of the two ponds is irregularly shaped, approximately 1200 feet long and 800 feet wide at its widest point, and located less than 1000 feet from the Ohio River. The smaller pond is approximately 500 feet long by 400 feet wide, located 175 feet from the Deltech property boundary. Both ponds lie directly west of the Facility, with groundwater flowing west towards the ponds and towards the Ohio River.

In May 2010, an ecological study conducted by EPA at the Facility revealed that tree species in the vicinity of the Facility are indicative of secondary succession, which arises on areas where the vegetative cover has been disturbed by humans or animals (such as an abandoned crop field or cut-over forest, or natural forces such as water, wind storms, and floods).

Birds observed during a Facility visit included a red-tailed hawk (*Buteo jamaicensis*), common swifts (*Apus apus*), a purple martin (*Progne subis*), European starlings (*Sturnus vulgaris*), Canada geese (*Branta canadensis*), a Northern mockingbird (*Mimus polyglottos*) and a sandpiper (Family Scolopacidae). White-tailed deer (*Odocoileus virginianus*) were also observed near the smaller pond. All of these species may be found in close proximity to humans. Of note were the numerous swifts which were seen nesting in sand piles and along embankments.

There were no visible signs of contamination, either as staining on the ground or sheen on the water, or smells of decomposition. There were no dead fish or animals. The biological communities superficially appeared to be robust.

Although the Facility biota observed was highly reflective of human disturbance, there was no indication, based on either preliminary field observations or analysis of media sampling results that the NewChem facility operations has negatively impacted the surrounding ecological resources.

V. Proposed Corrective Measures

EPA is proposing enhanced anaerobic bioremediation of groundwater and Institutional Controls (ICs) as the final remedy for the Facility as set forth below:

A. Enhanced Anaerobic Bioremediation of Groundwater

EPA’s corrective action goal for Facility groundwater is to restore groundwater to drinking water standards established by MCLs. During the November 2009 sampling event, groundwater collected at monitoring well MW-MP6 revealed TCE at a concentration of 35 ug/l. The MCL for TCE is 5 ug/l. EPA’s proposed remedy is the introduction of a non-toxic compound into groundwater at select monitoring well

locations in order to accelerate the treatment process, along with the verification of the effectiveness of the treatment through groundwater monitoring. Additional treatment will be applied as necessary until MCLs are met.

The goal of introducing a compound into the groundwater is to promote treatment of the chlorinated organic compounds such as TCE. A number of companies have developed compounds that are used to enhance and accelerate the degradation process. NewChem will evaluate some of these compounds for use at the Facility. NewChem will propose to EPA an action plan to include the introduction of a compound to enhance the degradation process and will also include a monitoring program as part of that plan. The goal of the monitoring element of the remedy is to ensure that groundwater contamination is not migrating off-site at concentrations that exceed respective cleanup levels and that on-site and off-site concentrations of contaminants continue to be reduced. NewChem will be required to perform the monitoring program at the Facility until drinking water standards are restored throughout the groundwater plume. If EPA determines that the goal of restoring drinking water standards is not attainable within a reasonable time frame, other remediation options will be evaluated.

B. Implementation of Institutional Controls

ICs are generally non-engineered mechanisms such as administrative and/or legal controls that minimize the potential for human exposure to contamination and/or protect the integrity of a remedy. Under this proposed remedy, some concentrations of contaminants may remain in the groundwater at the Facility above levels appropriate for residential and domestic uses. As a result, the proposed remedy will require the Facility to implement ICs in order to prohibit use of the Facility groundwater to prevent human exposure to contaminants while contaminants remain in place.

Implementation of ICs is necessary to maintain the integrity and protectiveness of the on-site groundwater remediation program; to ensure that the Facility is not used for residential purposes; and that subsequent purchasers of the Facility property are informed of the environmental conditions at the Facility and of EPA's final remedy for the Facility.

The proposed ICs will be implemented through an enforceable mechanism such as a permit, order, or an Environmental Covenant, pursuant to the West Virginia Uniform Environmental Covenants Act, Chapter 22, Article 22.B, §§ 22-22B-1 through 22-22B-14 of the West Virginia Code (Environmental Covenant).

1) Existing Institutional Controls

EPA has identified the State of West Virginia Department of Health and Human Resources Bureau for Public Health Water Well Regulations, Section 64-19-1 *et seq.* ("Water Well Regulations"), Title 64 (Health), Series 19 (Legislative Rule) and its implementing statute set forth at the West Virginia Code, Chapter 16 (Public Health), Article 1 (State Public Health System) as an institutional control mechanism that will reduce potential human exposure to contaminated groundwater attributable to the Facility

and the MTR property. Pursuant to Section 64-19-1, the purpose of these Water Well Regulations is to “protect the public health, protect and prevent contamination in groundwater and ensure fair and equitable rules for the construction of water wells and installing pumps and pumping equipment in the State of West Virginia.”

Accordingly, Sections 64-19-1 through 64-19-14 of the Water Well Regulations describe the process by which construction permits for the installation of private wells are received and issued. Pursuant to Section 64-19-13, persons who violate the provisions of the Water Well Regulations are subject to the civil and administrative penalties of West Virginia Code §6-1-9a and potential civil or criminal penalties under West Virginia Code Sections 16-1-9, 16-1-9a and 16-1-18 (Chapter 16) Public Health System, Article 1 (State Public Health System).

2) Proposed Institutional Controls

If the IC mechanism is to be an environmental covenant such, environmental covenant, pursuant to the West Virginia Uniform Environmental Covenants Act, Chapter 22, Article 22.B, Sections 22-22B-1-22-22B-14 of the West Virginia Code (“Environmental Covenant”), will be recorded with the Hancock County Clerk’s Office and the deed for the Facility property. EPA proposes that the Environmental Covenant include the following:

- i. a restriction on the use of groundwater beneath the Facility for potable purposes or any other use that could result in human exposure, unless such use is required by the Final Remedy;
- ii. a restriction on well drilling at the Facility without prior EPA approval, to prevent inadvertent exposure to the contaminated groundwater and adverse affects to the Final Remedy; and
- iii. a restriction that the Facility not be used for any purpose other than industrial unless it is demonstrated to EPA that another use will not pose a threat to human health or the environment and EPA provides prior written approval for such use.

VI. Evaluation of EPA’s Proposed Decision

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

This proposed remedy protects human health and the environment from exposure to contamination in groundwater and soils for current and anticipated land use.

There are no current human health threats associated with domestic uses of the contaminated groundwater originating from the Facility because the impacted groundwater is not currently used for drinking water purposes. The properties in the vicinity of the Facility are serviced by water from a source up-gradient from Facility-related contamination. Even though there are no current consumptive uses of Facility-contaminated groundwater, the goal of EPA's proposed remedy is to restore groundwater to drinking water standards.

Until groundwater is restored to drinking water standards, EPA is proposing to require institutional controls, as necessary, to prevent consumption of the groundwater. Such institutional controls will include reliance upon Water Well Regulations enacted by the State of West Virginia's Department of Health and Human Resources Bureau for Public Health which restricts the installation of private drinking water wells throughout the State and thereby reduces human exposure to groundwater contaminants. EPA's proposed remedy also requires the implementation of institutional controls to prevent any activities which would interfere with or adversely affect the integrity or effectiveness of the remedial actions performed at the Facility.

2. Achieve Media Cleanup Objectives

The groundwater monitoring program will continue until groundwater is restored to drinking water MCLs. If the goal of restoring drinking water standards is not attainable within a reasonable time frame, other remediation options will be evaluated.

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. Environmental investigations conducted at the Facility have identified a history of poor waste handling practices as the most likely cause of the groundwater contamination. The most recent investigations indicate that Facility soils are most likely no longer a source of groundwater contamination because of the low levels of contaminants identified in the recent sampling activities at the Facility and that the residual contamination in groundwater, although slightly elevated, is not extensive.

EPA has concluded that a program of enhanced anaerobic bioremediation for groundwater will be adequate to remedy the present groundwater contamination problem.

VII Public Participation

Interested persons are invited to 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. Comments may be submitted by mail, fax, e-mail, or phone to:

Mr. William Wentworth (3LC20)
U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103
Phone: (215) 814-3184 Fax: (215) 814-3114
Email: Wentworth.William@epa.gov

A public meeting will be held upon request. Requests for a public meeting should be made to Mr. Wentworth at the address listed above. A meeting will not be scheduled unless one is requested.

The Administrative Record contains all the information considered by EPA for the proposed decision at this Facility. The Administrative Record is available at the following locations:

RCRA Files
U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103

Swaney Memorial Library
100 Court Street
New Cumberland, West Virginia 26047
(304) 564-3471
Hours: Mon., Tues., Thur., Fri. 9:00 AM – 4:00 PM
Wed. 11:00 AM – 7:00 PM

Date:

Abraham Ferdas, Director
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US EPA, Region III