



FINAL DECISION AND RESPONSE TO COMMENTS

BOEHRINGER INGELHEIM CHEMICALS, INC.

EPA ID NO. VAD093561652

PETERSBURG, VIRGINIA

I. FINAL DECISION

The Virginia Department of Environmental Quality (DEQ) has determined that no further action is required to make this property suitable for any type of land use. This is based on our findings detailed in the Statement of Basis, dated May 8, 2014. This determination is consistent with EPA's February 2003 Final Guidance of Completion of Corrective Action Activities at RCRA Facilities (reference 68 FR 8757).

II. PUBLIC COMMENT PERIOD

On May 8, 2014, DEQ proposed a determination of "Corrective Action Complete without Controls". Consistent with public participation provisions under the Resource Conservation and Recovery Act (RCRA), DEQ requested comments from the public on the proposed determination described in the Statement of Basis. The commencement of a thirty (30)-day comment period was announced in the Petersburg Progress newspaper on May 9, 2014 and on the DEQ website. The public comment period ended on June 7, 2014.

III. RESPONSE TO COMMENTS

DEQ received no comments on its proposed determination for the Facility. Consequently, DEQ's determination did not change from the determination proposed in the SB.

IV. AUTHORITY

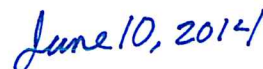
DEQ is issuing this Final Decision under the authority of the Solid Waste Disposal Act, as amended by RCRA, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. Sections 6901 to 6992k.

V. DECLARATION

Based on the Administrative Record compiled for the Corrective Action at the Boehringer Ingelheim Chemicals, Inc. facility, DEQ has determined that the Final Remedy selected in this Final Decision and Response to Comments is protective of human health and the environment.



Durwood Willis, Director
Office of Remediation Programs
Virginia Department of Environmental Quality



Date

Attachment A: Statement of Basis, dated May 8, 2014



STATEMENT OF BASIS

BOEHRINGER INGELHEIM CHEMICALS, INC.

PETERSBURG, VIRGINIA

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MAY 2014

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1.0 INTRODUCTION

1.1 Facility Name

The Virginia Department of Environmental Quality (DEQ or Department) has prepared this Statement of Basis (SB) to solicit public comments for its proposed decision for the Boehringer Ingelheim Chemicals, Inc. facility located at 2820 North Normandy Drive, Petersburg, Virginia 23805 (hereinafter referred to as the Facility or “BICF”).

The Facility is subject to the Corrective Action (CA) 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. Sections 6901 to 6992k. The Corrective Action Program is designed to ensure that certain facilities subject to RCRA have investigated and cleaned up any releases of hazardous waste and waste constituents that have occurred at their property. Information on the Corrective Action Program can be found by navigating to <http://www.epa.gov/reg3wcmd/correctiveaction.htm>.

The Administrative Record (AR) for the Facility contains all documents, including data and quality assurance information, on which DEQ’s proposed decision is based. See Section 6, Public Participation, for information on how you may review the AR.

1.2 Proposed Decision

DEQ has reviewed all available Facility data and has determined that there are no unaddressed releases of hazardous waste or hazardous constituents from the Facility. Based on its review, DEQ’s proposed decision is that no additional characterization or remediation is necessary. DEQ’s proposed decision represents “Corrective Action Complete without Controls” as described in the Environmental Protection Agency’s (EPA) “Final Guidance on Completion of Corrective Action Activities at RCRA Facilities”, (68 FR 8757, February 25, 2003). DEQ has determined, in coordination with the EPA, that its proposed decision for the Facility is protective of human health and the environment and that no further corrective action or controls are necessary at this time.

This SB summarizes information that can be found in greater detail in the work plans and reports reviewed by DEQ and EPA, which can be found in the Administrative Record (AR).

1.3 Public Participation

Interested persons are invited to comment on DEQ’s proposed decision by reviewing this SB and the documents contained in the AR. The information presented in this SB can be found in greater detail in the work plans and reports submitted by the Facility to DEQ and EPA. To gain a more comprehensive understanding of the RCRA activities that have been conducted at the Facility, DEQ encourages the public to review these documents, which are found in the AR. A copy of the AR is available for public review, in paper or electronic format, from the DEQ contact person, the address and telephone number of which is provided in Section 6.0 below.

When making a determination regarding the proposed decision, DEQ will consider all written comments received during the comment period (see Section 6.0). Each person who has submitted comments will receive a written response from DEQ. If DEQ determines that new information or public comments warrant a modification to the proposed decision, DEQ will modify the proposed decision or select other alternatives based on such new information and/or public comments.

2.0 FACILITY BACKGROUND

The BICI site is a 200 acre continued use facility that is largely comprised of undeveloped forest areas with approximately 25 percent developed for production facilities and associated services including manufacturing buildings, process buildings, storage buildings, office space, parking lots, waste water treatment facilities, and landscaped areas. The Facility manufactures active pharmaceutical ingredients and intermediates for the pharmaceutical industry. In 2013, the Facility announced that it would implement a phased shutdown of operations over the next two years.

Production is carried out in United States Federal Department of Agriculture and United States Drug Enforcement Agency registered manufacturing/production facilities. The main production plant is in operation more than 300 days per year. Manufacturing facilities include two multi-purpose batch organic chemical production buildings, a hydrogenation building, and a specialty production building for controlled substances and high potency compounds. Numerous hazardous chemicals, non-hazardous chemicals, and petroleum products are used in the manufacturing process. The raw chemicals and petroleum products are stored in large aboveground storage tanks (ASTs), 55-gallon drums, tanker trucks, and carboys. The BICI facility is a large-quantity generator of hazardous waste and maintains permits for categorical discharges to the local municipality. The facility maintains a Minor Stationary Source Permit for air emissions, with volatile organic compound (VOC) emissions treated by a thermal oxidizer.

In 2005, EPA and DEQ met with BICI to discuss the Corrective Action program and subsequently, a file review occurred and in 2006 a RCRA site visit was conducted for which a RCRA Site Visit Report, dated July 5, 2006, was developed. Based on these activities, seventeen Solid Waste Management Units (SWMUs) and two Areas of Concern (AOCs) were identified at the Facility and include underground storage tanks, above ground storage tanks, components of the waste water treatment systems and associated piping, former hazardous waste storage area, and areas at which releases have been documented and/or cleaned up in the past. Based on this, the Facility entered into a Facility Lead Agreement with the EPA to conduct environmental investigations. A summary of the Facility's investigations and previous cleanup history is provided below.

3.0 SUMMARY OF ENVIRONMENTAL HISTORY

The following is a list of RCRA Corrective Action milestones that have been completed at the Facility and documents that are relevant to EPA's decision to recommend a "Corrective Action Complete Without Controls" determination:

- Closure Plan SWMU 3
- Closure Certification SWMU 3 issued by the VDEQ
- Facility Lead Program, RCRA Work Plan May 2007
- Sampling and Analysis Plan December 2010
- Conceptual Site Model 2012
- RCRA Facility Investigation Report, January 2014
- Environmental Indicator, Migration of Contaminated Groundwater Under Control, YES Determination, March 2014
- Environmental Indicator, Current Human Exposures Under Control, YES Determination, March 2014

The following is a table containing SWMUs and AOCs identified based on a review of files maintained by the DEQ and EPA.

SWMU and AOC Identification Table

Identification	SWMU and AOC Description
SWMU-1	Liquid Waste Disposal System
SWMU-2	Old Land Treatment Area
SWMU-3	Former Hazardous Waste Storage Area
SWMU-4	Hazardous Waste Tanker Pad and Drum Staging Area
SWMU-5	Bulk Hazardous Waste Tank
SWMU-6	Hazardous Waste Storage Building
SWMU-7	Wastewater Treatment Plant
SWMU-8	Obsolete Equipment Area
SWMU-9	Air Pollution Control Area
SWMU-10	Storm Water Retention Ponds
SWMU-11	Trash Dumpster/Compactor
SWMU-12	Maintenance Building
SWMU-13	Satellite Accumulation Areas
SWMU-14	Former Fuel Oil Tank Farm
SWMU-15	Current Fuel Oil Storage
SWMU-16	Former 1,000 Gallon Process Tank-Toluene Leak
SWMU-17	Trash Compactor
AOC-1	Caustic Release Area
AOC-2	Manhole Release Area

Historical Investigations and Cleanup Activities

The following is based on soil, soil gas, and groundwater analytical data that have been collected in support of environmental cleanup activities and the facility's RCRA Facility Investigation (RFI) process including the conceptual site model and quantitative risk assessment. Historical cleanup activities included closure of the former hazardous waste storage area (SWMU 3), which met conservative hazardous waste closure standards for soil and groundwater in accordance with RCRA. Additional cleanup activities occurred in association with a broken sewer pipe discovered in 1995 (AOC 1), a toluene release (SWMU 16), and a manhole release from a hairline crack in 2008 (AOC 2). Soil and groundwater data collected during and subsequent to these cleanup activities indicate that the actions taken were appropriate and effective. Most notably, in response to the toluene release at SWMU 16, contaminated soil was removed and the excavation area was treated with ORC, an oxygen releasing compound, to accelerate the biodegradation of toluene in groundwater. Sample data from 2000 to 2004 indicate that toluene was effectively removed from soil and reduced in groundwater to below drinking water standards. Cleanup activities for AOC 1 and AOC 2 consisted of soil excavation and liquids removal. Subsequent groundwater sampling associated with these areas was conducted during the RFI process in support of developing the facility's 2012 Conceptual Site Model (CSM). In addition, soil samples and groundwater samples associated with several SWMUs and AOCs site wide were collected during the RFI process in order to verify environmental conditions. In 2013, the facility completed their RFI process by conducting additional sampling in support of a quantitative risk assessment. Sample media included soil, soil gas, and groundwater. Sample locations targeted the areas with previously identified constituents of potential concern (COPCs), based on exceedance of risk based Regional Screening Levels (RSLs).

Soil - RFI investigation results and previous cleanup results indicated that in 2011 methylene chloride was the only constituent in soil detected above industrial level human health regional screening levels (RSLs) for direct contact, which occurred in one subsurface soil sample located at AOC 1. 2013 confirmation soil sample results for several sampling depths at that location indicated that methylene chloride was not detected at a concentration above the residential RSL, indicating that methylene chloride in soil had attenuated and is no longer present.

Groundwater – Based on exceedances of drinking water standards (MCLs or tap water RSLs if an MCL is not available) in at least one sample, the constituents identified in groundwater during previous cleanups and the RFI investigation included barium, mercury, methylene chloride, Methyl Tertiary Butyl Ether (MTBE), and 1,2,3-trichlorobenzene. MTBE was the only constituent detected consistently across the central portion of the Facility and was observed during the 2011 sampling at 53 ug/L in MW-4, which is the most down gradient monitoring location at which it was detected. In 2013, confirmation samples results indicated that MTBE in MW-4 was observed at a concentration of 21.4 ug/L, which indicates that MTBE is attenuating. Methylene chloride was detected above its MCL at AOC 1 in 2004, which was associated with the broken sewer pipe cleanup. In 2013, confirmation groundwater sampling at AOC 1 verified that methylene chloride had attenuated to below its MCL of 5 ug/L. In 2004, groundwater sample results indicated that barium and mercury were detected in groundwater at concentrations slightly higher than their respective MCLs in only one direct push grab sample in the vicinity of SWMU 16, but are not considered representative due to poor sample quality (turbidity) created

by grab sampling methods using a direct push drill rig. Groundwater samples collected from properly constructed groundwater monitoring wells located within vicinity of the area indicated that barium and mercury were either non-detect or below drinking water standards. 1,2,3-trichlorobenzene was observed in only one sample outside of the industrial area in 2009 at an estimated concentration (0.69J ug/L) slightly above its RSL (0.52 ug/L), but was not observed elsewhere in facility groundwater.

The groundwater record for the Facility indicates that there are no longer any sources present at the facility and that constituents observed in groundwater have attenuated. Based on the most recent groundwater sampling results from 2013, there are no groundwater concentrations above MCL remaining at the site. The facility also conducted a quantitative risk assessment, which is included in the final RFI Report contained in the AR. It concluded that the excess lifetime cancer risk (ELCR) is 3E-06 for an adult resident, 2E-06 for a child resident, and 6E-08 for adult site workers, which are at or below EPA's acceptable risk range of 1E-06 to 1E-04. It also concluded that the toxicity hazard indices (HI) for cumulative lifetime exposure to non-carcinogenic chemicals was 0.06 for an adult resident, 0.1 for a child resident, and 0.002 for an adult site worker, which are below EPA's target HI of 1.

Soil Gas – In 2013 the facility collected two soil gas samples from locations where MTBE was observed and where methylene chloride was previously observed. Results indicated that methylene chloride and MTBE were not detected in soil gas.

Based on the data for all sample media, the quantitative risk assessment presented in the final RFI Report concluded that there are no unacceptable risks to human health or the environment under the current industrial use of the property or future unrestricted use.

4.0 ENVIRONMENTAL INDICATORS

Under the Government Performance and Results Act ("GPRA"), EPA has set national goals to address RCRA corrective action facilities. Under GPRA, EPA evaluates two key environmental clean-up indicators for each facility: (1) Current Human Exposures Under Control and (2) Migration of Contaminated Groundwater Under Control. The Facility met these indicators on March 6, 2014.

5.0 FINANCIAL ASSURANCE

Since no further investigations or corrective actions are anticipated based on the available information, financial assurance for corrective action is not required for the Facility.

6.0 PUBLIC PARTICIPATION

Interested persons are invited to comment on DEQ's proposed decision. The public comment period will last thirty (30) calendar days from the date the notice is published in a local newspaper. Comments may be submitted by mail, e-mail, or phone to Mr. Brett Fisher at the address listed below.

DEQ will hold a public meeting to discuss this proposed decision upon request. The Administrative Record contains all the information considered by DEQ for its proposed remedy for the Facility. To receive a copy of the Administrative Record, contact Mr. Brett Fisher at the address below:

Virginia Department of Environmental Quality
629 East Main Street
P.O. Box 1105
Richmond, VA 23218
Contact: Mr. Brett Fisher
Phone: (804) 698 - 4219
Email: brett.fisher@deq.virginia.gov

Date: *May 8, 2014*



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