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Alexander B. Grannis
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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

STATEMENT OF BASIS

FOR

WYETH PHARMACEUTICALS

401 North Middletown Road
Pearl River, Rockland Co., New York 10965
EPA I.D. No.: NYD054065909

Public Noticed on: August 7, 2008

Abstract: The Department has investigated the Wyeth Facility and found very low levels of VOC contamination in the groundwater. These levels are just above NY State standards and have been declining for many years due to natural processes. The levels of contamination are too low for any active remediation to be effective, so the declining contamination will be closely monitored until levels are below standards or a need for more intervention is required.

Dated: September 30, 2008

By: _____
Edwin E. Dassatti, P.E.
Director
Division of Solid & Hazardous Materials

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I. ANNOUNCEMENT OF PROPOSED CORRECTIVE MEASURES

The Statement of Basis (S.B.) has been developed by the New York State Department of Environmental Conservation (NYSDEC) under the authority of Title 6, Part 373 of the New York Codes, Rules and Regulations (6 NYCRR Part 373). This Statement of Basis was prepared in accordance with the requirements of 6 NYCRR 373-1.4(f).

The S.B. describes, among others, the favored, proposed, final corrective measure alternative for managing low levels of Volatile Organic Compounds (VOCs) found in the groundwater under the Western part of the facility. This proposed, final corrective measure for the facility includes long term monitoring with natural attenuation for groundwater under the landfills located in the western portion of the facility and institutional controls which will require deed restrictions on future uses of some contaminated soil under Building 96 and Building 130. Building 96 has a small amount of soil contaminated with mercury under the foundation of the building and Building 130 has some soil contaminated with volatiles that necessitated the installation of a vapor abatement system to ensure the protection of human health. The institutional controls include appropriate restrictions to prevent public access to residual contaminated soils at the site. Details of the preferred final corrective measure are discussed in the Proposed Final Corrective Action and Cleanup Goals sections of this statement.

The S.B. provides background information on the Facility; outlines the alternatives considered to deal with contaminants in the various media (soil, groundwater and indoor vapor); presents the technical approach and rationale for the selection of the preferred remedy; and discusses the public's role in the decision process for selecting a final remedy for this Facility.

NYSDEC welcomes public comment on all the alternatives considered and any other comments pertinent to selecting a final corrective measure for this Facility. Public comments can influence NYSDEC's final selection of a corrective measure. If new substantive information and arguments are presented to NYSDEC through public comments, NYSDEC may integrate these comments and so modify the proposed final corrective measure. Therefore the public is encouraged to review and provide comment on this S.B..

The selection of the proposed, preferred remedy is supported by investigative data presented in the "Ground Water CMS", dated January 2005; the Building 96 Mercury Spill in the "ICM for Building 96" dated August 2007; and "Indoor Vapor Study " dated February 2005.

II. Facility Background

This large pharmaceutical plant is located in Pearl River on a 500-acre site as depicted in Figure 1. This site was first used as a dairy farm prior to being purchased by Lederle in 1907, with the subsequent erection of a plant for the manufacture of serums and other pharmaceutical antitoxins.

During the over one hundred years of the plant's existence, many more buildings and process facilities (including the fermentation processes required for the production of antibiotics in the 1950s) were constructed on this site to support the production of more pharmaceutical products and to conduct medical and pharmaceutical research as shown in Figure 2.

American Cyanamid Company purchased this facility in 1930, American Home Products Corp. then purchased this facility in1994, later changing its name to Wyeth Holdings Corp.

A. Location and Operations

The site straddles the border between the towns of Clarkstown and Orangetown in Rockland County, New York. The facility is located approximately 1.5 miles north of the New Jersey state border and is 20 miles northwest of New York City. The facility is situated to the west of Route 304 and approximately 5 miles east of the Garden State Parkway extension into New York State. It is bounded by Middletown Road on the East, Crooked Hill Road to the south, and forested and residential areas to the west and north. The landfill area is in the western portion of the facility adjacent to Pearl Brook (also known as Muddy Creek), a stream which runs though the site.

Pearl Brook is a Class D stream which bisects the Wyeth-Ayerst facility and flows into the Pascack Brook and then to the Hackensack River. The nearest New York State regulated freshwater wetland is located about 1.5 miles northwest of the site.

B. Regulatory and Investigation History

Site Responsibility and Legal Instrument:

New York State Part 373 Hazardous Waste Management Permit addresses: (1) the storage and management of hazardous waste in tanks, container storage areas and lab packs; (2) the treatment of hazardous wastes; and (3) RCRA Corrective Action. Corrective Action consists of remedial facility investigation, corrective measures study CMS, and interim and final corrective measures design (ICM) and implementation.

Permit Status:

6NYCRR Part 373 Hazardous Waste Permit was issued 9/28/93. It has an expiration date of 9/29/98 but it has been extended as required by State law.

III. RCRA Facility Investigations

Over the past 15 years many investigations have been performed at the facility. Investigations have studied possible contamination involving groundwater, soil, indoor air, and releases from sewers.

A. Groundwater Contamination

Several chlorinated and non-chlorinated volatile organic constituents (VOCs) and Semi volatile organic constituents (SVOCs) were detected in the groundwater at this site. VOCs included acetone, benzene, carbon disulfide, dichloroethene (DCE), tetrachloroethene (PCE), toluene, trichloroethene (TCE), chorobenzene and xylene.

A few contaminants were found in upgradient wells. Higher concentrations of VOCs and SVOCs were detected in onsite wells and immediately downgradient of the closed landfills. Wyeth-Ayerst has proposed that the concentrations of contaminants will be naturally attenuated by the time they reach the property boundary. This possibility has been investigated with the installation and sampling of additional monitoring wells under the Part 373 Permit.

The Wyeth facility and the surrounding areas are serviced by the public water system. The primary source is Lake Deforest in a completely different watershed in Norther Rockland County.

B. Soil Contamination

Contaminated Soil

Given the size and age of the facility, remarkably little soil contamination has been encountered during investigations. There are, however, two areas remaining at the facility with contaminated soil. One is Building 96, where a few yards of soil under the building were discovered to be contaminated with mercury and the other is Building 130 where soil under the building is contaminated with VOCs. These two areas will continue to be subject to deed restrictions to prevent any unauthorized access until the contaminated soils are remediated.

The mercury contamination under Building 96 has levels up to 35 ppm and is currently inaccessible for remediation. When the contamination becomes accessible, the then property owner is required to remediate the contaminated soil.

The VOC contaminated soil under Building 130 is currently inaccessible and must wait until the soil becomes accessible for remediation. It has also raised the question of indoor air contamination. In order to ensure the protection of human health, a vapor mitigation system (similar to a radon abatement system) was installed.

It is possible that as buildings or other structures are constructed or demolished, additional areas of soil contamination may be discovered. Any such discovery will be handled by the existing 373 Permit under the section for Interim Corrective Measures. During the Public Notice period of this Statement of Basis, an investigation of the Northern Parcel of this site was being conducted to delineate some metal contamination in surface soils where a garage used to exist. If required, remediation will be performed in accordance with the 373 permit as Interim Corrective Measures.

Interim measures performed to all applicable standards in the future will be considered final measures only by modifying this Statement of Basis.

D. Sewers

The facility generates on average, 1 million gallons per day of mixed sanitary industrial wastewater discharge. This flow is conveyed to and treated by the on-site wastewater treatment plant. The sewer infrastructure consists of about 8 miles of industrial and sanitary sewers. The sewer pipelines range from 4 to 18 inches in diameter and are laid at depths ranging from 5 to 20 feet. Sewer piping materials include vitrified clay tile (VCT), cast iron, fibercast, transite, and PVC, with VCT being the most common. Sewer installation occurred between 1935 and 1965.

The visual inspection of the industrial sewers from the production buildings revealed 18 breaks. These breaks were immediately repaired. An investigation of the groundwater in the vicinity of these discontinuities was conducted, and no contaminant plumes were discovered.

IV. Scope of Corrective Action and Remediation Goals

The remediation goal for the selected corrective action is to ensure the safety of human health and the environment. Specifically, the Department seeks to ensure there are no exposure pathways for contaminants exceeding New York State regulatory limits to reach human or environmental receptors.

V. Corrective Measures Alternatives

A. Corrective Measure Alternatives

The corrective measure alternatives reviewed for this report have shown effectiveness in remediating groundwater contamination (with the exception of the No Action alternative which is included for baseline comparison). These technologies include:

Alternative	1	Monitored Natural Attenuation
Alternative	2	Pump and Treat
Alternative	3	Cap/slurry walls
Alternative	4	No Action

Alternative 1 Monitored Natural Attenuation

The Natural Attenuation alternative would call for the monitoring of the existing low levels of contaminants. The data gathered will be compared to the many years of previously collected data, computer models of the site, and other reports to see if the predicted decrease in contamination occurs as predicted by the site model.

If the newly collected data agrees with the predictions of decreasing levels of contaminants, no additional remedial action other than continued monitoring will be required until the contaminants of concern fall below regulatory standards. State standards for VOCs are 5 parts per billion (ppb) in groundwater. Current levels of contaminants are within 2 ppb of the State limit and still falling

If contaminant levels increase for any reason, the Department will require Wyeth to re-evaluate remedial alternatives to see if a new one needs to be implemented.

Alternative 2 Pump and Treat

The Pump and Treat alternative involves using a series of wells to collect groundwater and then treat the groundwater to remove the contaminants. This technique is useful when groundwater is more heavily contaminated (5 or more times State Standards) which is not the case in this situation. The cost effectiveness decreases with the level of contamination as more and more water must be pumped and treated for a decreasing amount of contamination.

Alternative 3 Cap/slurry Walls

The landfill areas are already effectively capped with a very low permeability cover consisting of yeast cake waste. This carbon rich very fine material is similar to compost and was used as a daily cover, it also acts to reduce (treat) the contaminants currently in the groundwater flowing though the landfills. Additional capping of the landfills would not provide further improvements to ground water for the investment. Diverting the flow of groundwater via the use of slurry walls may in fact be counter productive since the carbon rich landfills are playing a role in treating the contaminants.

Alternative 4 No Action

The no-action alternative is often evaluated to establish a baseline for comparison with alternatives where some remedial action is taken. This Alternative is currently not acceptable since some groundwater well locations still have levels of contaminants above State standards.

VI. Proposed Corrective Measures

The Department has determined that Alternative 1 is most appropriate. Wyeth proposes to monitor the groundwater in wells on either side of Pearl Brook and upgradient and downgradient of the landfills. The monitoring schedule will begin with a twice yearly sampling event for the first five (5) years. After that period, Wyeth may request a modification to the sampling schedule. The Department will review the data and may agree to a reduction in

sampling frequency if contaminant levels continue to fall. If contaminant levels increase so will the frequency of the sampling events, or if human health or the environment appear to be at risk, additional corrective measures will be investigated and implemented as necessary.

A. Technical Criteria

The selected alternative was reviewed against seven technical criteria; performance, reliability, implementability, safety, human health, environment, and cost.

1. Performance

Any potential corrective measure(s) may be assessed for the short and long-term effectiveness it affords, along with the degree of certainty that the corrective measure(s) will prove successful.

2. Reliability

Any potential corrective measure(s) may be assessed for the degree of certainty that the corrective measure(s) will prove successful.

3. Implementability

The ease or difficulty of implementing a potential corrective measure(s) may be assessed by considering the following types of factors:

(a) Degree of difficulty associated with constructing the technology;

(b) Expected operational reliability of the technologies;

(c) Need to coordinate with and obtain necessary approvals and permits from other agencies;

(d) Availability of necessary equipment and specialists;

(e) Available capacity and location of needed treatment, storage and disposal services; and

(f) Requirements for removal, decontamination, closure, or post-closure of units, equipment, devices or structures that will be used to implement the corrective measure(s).

4. Safety

Short-term risks that might be posed to the community, workers, or the environment during implementation of such a corrective measure(s), including potential threats to

human health and the environment associated with excavation, transportation, and re-disposal or containment.

5. Human Health

Potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal or containment;

6. Environmental

Reduction of toxicity, mobility or volume. A potential corrective measure(s) may be assessed as to the degree to which it employs treatment that reduces toxicity, mobility or volume of hazardous wastes and/or hazardous constituents.

7. Cost

The types of costs that may be assessed include Capital costs; Operation and maintenance costs; Net present value of capital and operation and maintenance costs; and Potential future corrective measure costs.

VII. Procedure For Reaching A Final Decision

Section 7004(b) of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section of 6974 and 40 C.F.R. § 124.10, as well as Article 27 of the ECL and 6 NYCRR Part 621 require that the public be given forty-five (45) days to comment on a proposed remedy. The comment period will begin on August 6, 2008 and will end on September 20 , 2008. Any person interested in commenting on this proposed remedy must do so within the forty-five (45) day comment period.

All persons wishing to comment on this proposed remedy should provide comments in writing to Mr. Robert Phaneuf, Chief, Bureau of Radiation and Hazardous Site Management, 625 Broadway, Albany, New York 12233 no later than September 20, 2008. comments should include all reasonably available references, factual grounds and supporting material.

NYSDEC will consider all written comments received during the public comment period in making the final remedy decision. Any determination to conduct a public hearing on the proposed remedy based upon written comments will be made in accordance with the EPA requirements in 40 C.F.R. Part 124 and the NYSDEC Uniform Procedures regulations in 6 NYCRR Part 621.

When NYSDEC makes a final determination regarding this proposed remedy, notice will be given to each person who has provided written comments or requested notice of the final decision. If no comments request a change in the proposed final remedy, the final remedy decision shall become effective immediately upon issuance.