Region 7

Iowa
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Fact Sheet

March 2004

Second Five-Year Review Begins
Pester Refinery/Pester Burn Pond Superfund Site, El Dorado, Kansas

Introduction

The U.S. Environmental Protection Agency (EPA) conducts regular five-year reviews on certain Superfund sites, as required by the Superfund law [42 U.S.C. § 9621(c)]. EPA Region 7 and the Kansas Department of Health and Environment (KDHE) have started their second five-year review of the Pester Refinery/Pester Burn Pond Site. The site is located north and west of the city of El Dorado in Butler County, Kansas.

Site

The site is located on a 10-acre tract and is comprised of a burn pond in which petroleum wastes were ignited as a common practice in the refinery operations. The site consists of *only* the burn ponds. The refinery adjacent to the west of the site is *not* part of the site.

The West Branch Walnut River flows near the north and east edges of the site's pond berm. Farmlands are to the north and east across the river. The El Paso Merchant-Energy Petroleum Company's office building and its treatment and aeration ponds are located to the south of the site.

Background

The refinery immediately west of the site was constructed in 1917, soon after the discovery of oil in El Dorado. The refinery and surrounding area were purchased in 1958 by Fina Oil and Chemical Company (now ATOFINA Petrochemicals, Inc.). The burn pond was built by the Fina Oil and Chemical Company around the time of the purchase, and petroleum waste products generated by refinery operations were disposed in the burn pond.

In 1977, Pester purchased the refinery from Fina and continued the refinery operations. In 1985, Pester filed for bankruptcy. Coastal Derby Refining Company (now El Paso Merchant-Energy Petroleum Company) purchased the refinery but *not* the tract of land containing the burn pond. The burn pond is still owned by Pester.

A subsurface interceptor trench was constructed in 1992 east and south of an existing open trench. The existing open interceptor trench had been constructed earlier to intercept seepage from the burn pond but occasionally overflowed or was inundated and carried contaminants into the river. The water extracted from the subsurface trench was either returned to the burn pond or it was discharged after treatment into the West Branch Walnut River under a National Permit Discharge Elimination System (NPDES) permit.

The responsible parties conducted a remedial investigation and feasibility study (RI/FS) at the site which resulted in EPA's 1992 Record of Decision (ROD) for operable unit 1 (OU 1). The remedy required the following:

- the dewatering of the sludge in the burn pond, and removal offsite for re-processing into petroleum product,
- in-situ bioremediation including aeration in the burn ponds, and in-situ flushing of the contaminated soils in the ponds utilizing the existing interceptor trench for collection of water, followed by reintroduction of water into the pond.

The OU 1 remedy was modified to include a three-phase separation of the pond sludge on site into recovered refinery feedstock (RRF oil), water and residual solids, and transportation offsite of the RRF oil (for incorporation into a refining process) and the residual solids, and this was documented in a 1993 Explanation of Significant Differences (ESD).

The responsible parties entered into an agreement in 1993 to conduct the design, construction, and operation of the remedy. After the design was completed, the remedial action began in 1994. Fina operated the bioremediation system and has conducted quarterly groundwater monitoring and sediment monitoring. An extension to the northwestern end of the subsurface interceptor trench was constructed in 1996 to replace the original open interceptor trench which could be flooded by the West Branch Walnut River.

A ROD for operable unit 2 (OU2) was issued in 1998 and the remedy included: groundwater monitoring to evaluate changes in the groundwater quality, and sediment monitoring of the West Branch Walnut River. A change in the remedy for OU1 (ESD) in 1998 included modifications to the bioremediation system to optimize performance and cost-effectiveness.

The First Five Year Review

In 1999, the first five-year review of the site was completed. The source of contamination had been removed and the bioremediation long term response remedy was ongoing. The risk assessment was modified in an ESD in 2000 to reflect the individual carcinogenic toxicities for polycyclic aromatic hydrocarbons (PAHs).

Organic contaminants continued to be removed and the bioremediation remedy was working at that time. Subsequently the efficiency of the bioremediation remedy declined as indicated in a 2001 bioremediation report. ATOFINA Petrochemicals, Inc. has since been developing a focused Feasibility Study for OU1 to address a replacement remedy, which will likely include the option of stabilizing remaining contaminants in place. A Proposed Plan to amend the ROD would follow the Feasibility Study. A treatability study is also anticipated to help determine the performance objectives that would be included in the Proposed Plan.

The Second Five-Year Review

During the second five-year review, EPA and KDHE will inspect the site and study site information to determine if the remedy is protective of human health and the environment. We encourage the community to tell us about site conditions or any concerns.

At the end of the review, a final report will be prepared and will be available in the site information repositories. The goal is to complete the five year review and report in September 2004.

Additional Information

Detailed site information can be found at the following locations and a final report will be available at the end of the review:

EPA Records Center
901 N. 5th Street
Kansas City, Kansas

If you have questions or need additional information, please contact:

Fritz Hirter
Community Involvement Coordinator
U.S. EPA Region 7
901 North 5th Street
Kansas City, KS 66101
(913) 551-7003
Toll Free: (800) 223-0425
email: hirter.fritz@epa.gov