



U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF INSPECTOR GENERAL

Catalyst for Improving the Environment

Public Liaison Report

Corrective Actions Were Generally Implemented at Stauffer Chemical Company Superfund Site, Tarpon Springs, Florida

Report No. 08-P-0264

September 16, 2008



Report Contributors:

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Christine Baughman
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Abbreviations

CIC	Community Involvement Coordinator
EPA	U.S. Environmental Protection Agency
ESD	Explanation of Significant Differences
OIG	Office of Inspector General
ROD	Record of Decision
RPM	Remedial Project Manager
SMC	Stauffer Management Company

Cover photo: Photo of the South Parcel, Stauffer Chemical Company Superfund Site, Tarpon Springs, Florida (EPA OIG photo).



At a Glance

Catalyst for Improving the Environment

Why We Did This Review

The Office of Inspector General (OIG) evaluated the actions taken by the U.S. Environmental Protection Agency (EPA) Region 4 staff in response to a June 2004 OIG report concerning the Stauffer Chemical Company Superfund site in Tarpon Springs, Florida.

Background

The Tarpon Springs plant was used from 1947 to 1981 to process phosphorous. Even though the plant was removed, contaminated soil and material remained at the 130-acre site. EPA approved leaving these contaminants there, after consolidating and solidifying them, and then installing a cap. In June 2004, the OIG identified actions needed to allay public concerns about the cleanup actions proposed for this site and for other sites with similar geological traits, and to improve citizen involvement in the process.

For further information, contact our Office of Congressional and Public Liaison at (202) 566-2391.

To view the full report, click on the following link:
www.epa.gov/oig/reports/2008/20080916-08-P-0264.pdf

Corrective Actions Were Generally Implemented at Stauffer Chemical Company Superfund Site, Tarpon Springs, Florida

What We Found

Under a consent decree, the potentially responsible party is preparing the design for the EPA-approved cleanup actions. In December 2007, the design was 30 percent complete. As recommended in OIG Report No. 2004-P-00018, *Review of Actions at Stauffer Chemical Company Superfund Site, Tarpon Springs, Florida*, June 3, 2004 (OIG 2004 Report), this draft design incorporated the information and recommendations from the additional site studies.

Also as recommended in the OIG 2004 Report, Region 4 staff revised the community involvement plan for the site to include some community activity during the design phase. These activities are being performed. For example, public meetings were held in October 2005 and June 2007. In addition, when issuing the May 2007 Explanation of Significant Differences to change the cleanup actions proposed, Region 4 staff complied with EPA requirements. Although EPA could have asked for public input before making this decision, it does not require formal public participation during the remedy design phase.

In November 2004, to comply with a recommendation in the OIG 2004 Report, a Region 4 official instructed the staff to determine whether karst was present at a cleanup site and, if so, whether it would impact the site. Karst, an area of limestone formations that often contains sinkholes, is widespread in Florida. Some citizens believed that sinkholes at the Stauffer Chemical Company Tarpon Springs plant could cause any structures at the Superfund site to settle when the underlying ground sinks, and could create ready pathways for pollutants to travel between the surficial and Floridan aquifers.

We reviewed six sites to determine if recently-started site investigations included work to identify the presence and impact of karst. Although three of the six sites are not in karst-prone areas, three sites are so located. Earlier studies at these three sites had not evaluated the potential impact of karst. More recent studies are addressing the karst issue.

What We Recommend

We have no recommendations for corrective action.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
INSPECTOR GENERAL

September 16, 2008

MEMORANDUM

SUBJECT: Corrective Actions Were Generally Implemented at Stauffer Chemical Company Superfund Site, Tarpon Springs, Florida Report No. 08-P-0264

FROM: Nancy E. Long
Nancy E. Long
Acting Assistant Inspector General for Congressional and Public Liaison

TO: J. I. Palmer, Jr.
Regional Administrator
Region 4

This is our report on the subject review conducted by the Office of Inspector General (OIG) of the U.S. Environmental Protection Agency (EPA). It describes efforts by EPA Region 4 to address the findings in an earlier OIG report about the Stauffer Chemical Company Superfund site, Tarpon Springs, Florida. This report represents the opinion of the OIG.

On August 1, 2008, we issued a draft of this report for review and comment. You agreed with our conclusions.

The estimated cost of this report – calculated by multiplying the project's staff days by the applicable daily full cost billing rates in effect at the time – is \$165,151.

Action Required

Because this report contains no recommendations, you are not required to provide a written response; we are closing this report upon issuance. We have no objection to the further release of this report to the public. For your convenience, this report will be available at <http://www.epa.gov/oig>.

If you or your staff has any questions regarding this report, please contact me at 202-566-0918; or Eric Lewis, Director for Special Reviews and Inspections, at 202-566-2664 or lewis.eric@epa.gov.

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Chapter 1

Introduction

Purpose

The U.S. Environmental Protection Agency (EPA) Office of Inspector General (OIG) reviewed the actions taken by Region 4 in response to the EPA OIG Report No. 2004-P-00018, *Review of Actions at Stauffer Chemical Company Superfund Site, Tarpon Springs, Florida*, June 3, 2004 (OIG 2004 Report). During this follow-up review, the objectives were:

1. Did the responsible party incorporate the results from the additional studies into the remedial design for the site?
2. Did Region 4 implement the actions in the revised community relations plan and, if so, does the community believe it is better informed about site activities and more involved in making decisions concerning the site?
3. Have recent remedial investigation/feasibility studies performed in Region 4 included geophysical and related groundwater studies for karst?

Background

The Stauffer Chemical Company (Tarpon Springs plant) Superfund site was used to process elemental phosphorus from 1947 until 1981. Most of the facilities have been dismantled. The site property, about 130 acres, is located on Anclote Road in Tarpon Springs, Pinellas County, Florida. It lies along the Anclote River 2 miles upstream from the Gulf of Mexico. Land use in the surrounding area includes light industrial, commercial, and residential.

The site was placed on the Superfund program's National Priority List in May 1994. Based on evaluations of the contamination at the site, in July 1998, EPA issued a Record of Decision (ROD) identifying how the site would be cleaned up. Among the actions proposed was consolidating contaminated material and soil in various areas of the site (including the main pond area), solidifying the pond material and contaminated soil below the water table in the consolidation areas, and placing a cap over these areas.

In accordance with a consent decree, Stauffer Management Company (SMC) subsequently conducted additional studies to further ensure that the selected remedy was safe and would provide long-term protection of human health and the environment over the life of the remedy. The findings of these studies supported the selected remedy outlined in the ROD and provided a further technical basis for the design of the cleanup actions. SMC, with oversight from EPA, began the

design work about October 2005 and expected to complete the designs in May 2006.

Due to citizen complaints and concerns, as well as related letters from a Florida congressional representative, the EPA National Ombudsman (then located in the Office of Solid Waste and Emergency Response) started a review of EPA's actions at the site. This review was completed by the OIG and resulted in the OIG 2004 Report. The Regional Administrator for EPA's Region 4 took corrective actions recommended in the OIG 2004 Report. He identified these actions in memoranda dated October 2004 and December 2005.

Scope and Methodology

We conducted the follow-up review from October 2007 through April 2008. As part of our work, we reviewed information from EPA's site file for the Stauffer Chemical Company (Tarpon Springs plant) Superfund site, especially technical reports completed after June 2004; EPA's financial management system; and various Internet Websites, such as EPA's official Website for the public, the Website of a firm doing work at the Superfund site, and MapQuest[®]. We also interviewed key officials in Region 4 who worked on the Superfund site and other EPA staff, as well as a representative from each of three community organizations.

In addition, we reviewed documents in EPA's files related to six other sites at which a remedial investigation or feasibility study was started after June 2004. The purpose of this work was to determine if these studies included appropriate karst-related components.

We performed this review in accordance with *Government Auditing Standards*, issued by the Comptroller General of the United States, except that we limited our review of management controls and compliance to those directly related to the objectives of the audit.

On August 1, 2008, the OIG issued a draft report to the Regional Administrator for Region 4 to review and comment. The Regional Administrator responded on August 29, 2008. He agreed with the conclusions. We include the Regional Administrator's memorandum in Appendix A.

Chapter 2

Draft Design Incorporated Results of Additional Studies

The Region 4 staff completed the corrective actions regarding the selected remedy that were recommended in the OIG 2004 Report. Based on the design at the 30-percent stage, SMC properly incorporated the cautionary recommendations and results of the additional site studies.

Prior Report Made Recommendations Concerning the Design

The OIG 2004 Report noted that the proposed cleanup action was only feasible if its design incorporated the cautionary recommendations included in the 2001-2003 geophysical study, and if additional groundwater characteristics information and analysis lacking in the 2003 draft groundwater report were addressed. The OIG recommended that the cautionary recommendations be implemented and that groundwater characteristics be adequately defined for remedial design.

Region 4 Completed the Corrective Actions

The Regional Administrator agreed to these recommendations. In December 2007, SMC's contractor submitted the Design Criteria Report (submitted at the 30-percent stage) for the cleanup work. Based on comparing the design report to the previous studies, we concluded the design had taken into account the recommendations and conclusions of the prior studies. The Region 4 Remedial Project Manager (RPM) for the site is currently reviewing the 90-percent design report. He sent this report to selected community groups and the local information repository for the site.

Chapter 3

Community Involvement Met Requirements While Missing Opportunities

The Region 4 staff completed the corrective actions recommended in the OIG 2004 Report concerning community involvement, but could have allowed the community to be more involved in the change to the ROD that was made in May 2007. However, the actions of Region 4 personnel complied with EPA's requirements for processing such changes.

Prior Report Recommended Continuing Community Involvement

Although Region 4 generally met the community involvement requirements, a segment of the community was dissatisfied with the EPA efforts and the remedy selected in the ROD. Some members of the community believed Region 4 had failed to be open and frank in its discussions and did not take the community concerns seriously. In several instances, Region 4 did not promptly address community concerns. As a result, some community members were skeptical about EPA's decisions, particularly concerning the remedy selected. EPA requires no formal public participation during the remedy design phase, so community members doubted that their remaining concerns would be addressed. The OIG recommended that EPA Region 4 revise its January 1993 community relations plan to include site visits during the design phase and obtaining community input on design documents.

Region 4 Completed the Corrective Actions

Region 4 staff adopted a revised community involvement plan for the site in November 2005. Among other things, it required the EPA RPM and Community Involvement Coordinator (CIC) to conduct public availability sessions during the design phase to provide the community an opportunity to learn about key milestones in the design process, and provide EPA with input on the plan. Public availability sessions were held in October 2005 and June 2007. Also, according to the three community members we contacted, the RPM promptly responded when contacted.

The October 2005 meeting provided the community with information about the design process that produced the plans and specifications for the cleanup. The design process included, among other things, a pilot test for solidifying the contaminated soil in the old wastewater ponds. This pilot test evaluated the equipment and methods proposed for the final cleanup.

The June 2007 meeting provided the community with information about a significant change to the ROD. In May 2007, the Region 4 Acting Division Director for the Superfund Division signed an Explanation of Significant Differences (ESD). Based on the experience from the pilot study for the solidification component of the selected remedy, EPA decided to use a groundwater cut-off wall instead of solidification. The cut-off wall would be installed around the perimeter of the waste ponds to channel horizontal groundwater flow around the contaminated pond sediments, thus reducing the potential for contaminants to move.

Region 4 Missed Opportunities to Significantly Involve the Community

Although Region 4 staff complied with EPA requirements concerning the ESD, they missed some opportunities to inform and involve the community. As required, Region 4 published notices in local newspapers about the ESD. Also, as noted above, they held a public availability session about the ESD; such a meeting, although recommended, was not required. Community input is not required by EPA guidance documents on processing an ESD. However, over a year elapsed between when the need for a change was recognized and the ESD was signed. During that period, the RPM informed the representative of one community group that a change was being considered. Other community groups were not informed and asked for input.

The solidification pilot test was ended in February 2006 because of a fire at the site. The fire resulted from a reaction between the elemental phosphorus below ground and the cement mixture used for solidification during the pilot test. Besides this adverse reaction, the pilot test identified metal debris in portions of the former waste ponds; the debris interfered with the mixing operation required for solidifying contaminated material. Because of these implementation problems for the solidification component, i.e., the fire and debris, Region 4 determined that it was necessary to change this part of the proposed cleanup action. Alternatives were considered at a meeting in May 2006. The proposed change was described in documents prepared by SMC's contractor in June 2006 and August 2006. In November 2006, the contractor gave Region 4 more information about the proposed change. Collectively, this was the information on which Region 4 based its decision.

The Region 4 staff missed opportunities to significantly involve the community, as follows:

- Except for one community organization, in February 2006, Region 4 staff did not provide information to community members about the fire at the site and reassure them about their safety. Representatives from two other

community organizations with whom we spoke indicated they had expected Region 4 to tell them about the fire.

- In May 2006, Region 4 staff decided to consider alternatives to solidifying material at the site. With the exception of one community group, the RPM did not inform the community that EPA was seeking alternatives and the design work might be delayed.
- By January 2007, Region 4 staff had information on the alternatives and could have provided it to the community for their input. Between then and May 2007, Region 4 staff were preparing and processing the ESD. The ESD was signed on May 24, 2007. This document was Region 4's first official notice to the community about the fire, its effect on the selected remedy, alternative remedies considered, and the decision reached by Region 4 to change the remedy.

The Meyers Cove Homeowners Association was the exception to the above. Meyers Cove is the residential area closest to the site. Because of this proximity, the RPM sent the association representative e-mail updates on the situation at the site in February 2006, May 2006, December 2006, and May 2007.

Given the extent of community concerns about this site in the past, Region 4 staff might have kept the community better informed and involved. Although two of the community members with whom we spoke were satisfied with the level of communication from Region 4, one believed Region 4's communication continued to be of poor quality. This concern was reflected in newspaper articles about the June 2007 public meeting, one of which indicated some community members believed EPA did not listen to their questions, suggestions, and critiques.

Region 4 staff offered several reasons for not involving the community earlier.

- Concerning the fire, two articles appeared about it in the local newspaper. Since the Region 4 staff considered these articles factually accurate, a Superfund Fact Sheet was unnecessary.
- Concerning the change to the selected remedy, Region 4 staff wanted to determine the appropriate technical solution before presenting it to the community. They believed the decision they reached was the only viable option. In addition, they did not consider the remedy change to be a major one.
- Following the June 2007 public meeting, the RPM responded to written comments submitted by a member of the public and posted this response to EPA's Website for the site. The RPM also provided information to some community members in response to their questions about similar sites.

Additionally, Region 4 obtained the services of an expert identified by community members to review the design. Thus, Region 4 staff addressed the questions, suggestions, and critiques of community members.

Although this report does not contain recommendations, we believe the RPM and CIC should be more proactive in communicating with community members. This is particularly important following emergencies (like the fire) and when contemplating changes to the selected remedy, such as substituting the retaining wall for solidification. As noted in the April 2005 *Superfund Community Involvement Handbook*, “Most communities accept a remedy, even if they are not completely satisfied with it, provided they understand how the decision was reached and had a meaningful part in reaching the decision.”

Chapter 4

Potential Impact of Karst Was Investigated

The Region 4 staff completed the corrective actions recommended in the OIG 2004 Report about karst investigations. Of six sites with recently-started remedial investigations, the three located in karst-prone areas included studies to evaluate the impact of karst.

Prior Report Recommended Guidance on Karst Investigations

In the OIG 2004 Report, we concluded that EPA had not adequately supported the remedy presented in the 1998 ROD. Specifically, EPA should have ensured that the additional technical studies performed in 2001-2003 were completed earlier in the process. Karst, an area of limestone formations that often contains sinkholes and is widespread in Florida, was not discussed in any of the study reports prior to 2000. Some citizens believed that sinkholes at the Stauffer Chemical Company Tarpon Springs plant could cause any structures at the Superfund site to settle when the underlying ground sinks, and could create ready pathways for pollutants to travel between the surficial and Floridan aquifers. According to the OIG's hydrogeologist, the karstic nature of the site should have been integrated into understanding the hydrogeologic framework of the site from 1992 onward. The OIG recommended that EPA Region 4 require that any future studies in known karst areas include geophysical and related groundwater studies for karst.

Region 4 Completed the Corrective Actions

Region 4 required, in a memorandum dated November 2004, additional attention at sites in karst-prone areas. In this memorandum, the Region 4 Director, Waste Division, emphasized to his staff the importance of determining the potential for karst at a cleanup site and its possible impact, especially on drinking water sources. Thus, early in the investigation, the site location should be compared to historical geology information, as well as site-specific hydrogeological information. Region 4 employs hydrogeologists in the Technical Services Section, Superfund Division; RPMs may consult with them regarding site conditions. They are involved in karst-related work at the Anniston Army Depot Superfund site in Alabama.

Karst Geology Was Addressed

Recent studies address the potential impact of karst. We reviewed actions at six sites with recently started studies to determine if they included work to identify the presence and impact of karst. Three of these sites are located in karst-prone

areas, and three are not. Thus, karst-related studies would not be appropriate for the three latter sites. For one of the other three sites (Coleman-Evans Wood Preserving site, Whitehouse, Florida), the Florida Department of Community Affairs evaluated the potential risks from sinkholes as part of a local comprehensive plan. It concluded the karst/sinkhole issue did not appear to be a problem in Duval County; the risk from sinkholes was considered to be very low.

The other two sites located in karst-prone areas were Alaric Area Groundwater Plume, Tampa, Florida; and Cabot-Koppers in Gainesville, Florida. For these two sites, earlier studies had not evaluated the potential impact of karst. However, more recent studies of the sites have addressed the potential impact of karst. For one site, specific karst terrain information was used to develop the work plan to install wells. At the other site, an additional study confirmed the presence of karst terrain. Thus, work at Region 4 Superfund sites in known karst areas is including geophysical and related groundwater studies for karst.

Status of Recommendations and Potential Monetary Benefits

RECOMMENDATIONS						POTENTIAL MONETARY BENEFITS (in \$000s)	
Rec. No.	Page No.	Subject	Status ¹	Action Official	Planned Completion Date	Claimed Amount	Agreed To Amount
No recommendations							

¹ O = recommendation is open with agreed-to corrective actions pending
C = recommendation is closed with all agreed-to actions completed
U = recommendation is undecided with resolution efforts in progress

Appendix A**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 4 ATLANTA FEDERAL
CENTER 61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

AUG 29 2008**MEMORANDUM**

SUBJECT: Response to Draft Public Liaison Report: Corrective Actions Were Generally Implemented at Stauffer Chemical Superfund Site, Tarpon Springs, Florida Assignment No. OCPL-FY07-0006

FROM: J. I. Palmer, Jr. /s/
Regional Administrator

TO: Eric Lewis, Director
US EPA, Office of Inspector General
Office of Congressional and Public Liaison

Thank you for the opportunity to comment on the draft report regarding the Stauffer Chemical Superfund Site in Tarpon Springs, Florida (OIG Assignment No. OCPL-FY07-0006). The OIG staff demonstrated a great deal of professionalism during the evaluation and preparation of this report.

We greatly appreciate your acknowledgement of the progress we have made in addressing the concerns raised in the June 2004 report. As noted in your report, the design criteria report takes into account the results from the prior geophysical and groundwater studies at the site. You have determined Region 4 staff has addressed the questions and suggestions that the community raised at the June 2007 public meeting. While the Remedial Project Manager has responded to inquiries from the public, issued an ESD fact sheet, and held a public meeting during the last year, we will look for ways to improve communications with the public. Region 4 will continue to enhance its already robust community involvement efforts, particularly as we transition from the design phase and into construction. Finally, as noted in your report, Region 4 is including appropriate geophysical and groundwater studies at similar sites with karst conditions.

We do not have any further comments regarding this report. Please contact Franklin Hill, Director of the Region 4 Superfund Division, at (404) 562-8583, if you have additional questions or need additional information.

cc: Terry Dempsey, R4 OIG/GAO Liaison

Appendix B

Distribution

Office of the Administrator
Regional Administrator, Region 4
Chief, Superfund Remedial and Site Evaluation Branch, Region 4
Chief, Superfund Remedial Section A, Region 4
Agency Follow-up Official (the CFO)
Agency Follow-up Coordinator
Office of General Counsel
Associate Administrator for Congressional and Intergovernmental Relations
Associate Administrator for Public Affairs
Audit Follow-up Coordinator, Region 4
Public Affairs Officer, Region 4
Deputy Inspector General