



U.S. ENVIRONMENTAL PROTECTION AGENCY  
OFFICE OF INSPECTOR GENERAL

*Catalyst for Improving the Environment*

## Hotline Report

# Results of Hotline Complaint Review for California Superfund Site

Report No. 09-P-0131

March 31, 2009



**Report Contributors:** Jee Kim  
Dave Goodman  
Carolyn Copper

### **Abbreviations**

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CTS	CTS Corporation
EPA	U.S. Environmental Protection Agency
MNA	Monitored Natural Attenuation
OIG	Office of Inspector General
PRP	Potentially Responsible Party
ROD	Record of Decision
RWQCB	California Regional Water Quality Control Board

**Cover photo:** New housing development built on the former CTS Printex Superfund Site, Mountain View, California. (EPA OIG photo)



# At a Glance

*Catalyst for Improving the Environment*

## Why We Did This Review

The Office of Inspector General (OIG) received a Hotline complaint that alleged mismanagement and abuse of authority regarding the U.S. Environmental Protection Agency (EPA) Region 9's management of specific activities at the CTS Printex Superfund Site in Mountain View, California.

## Background

The site is currently on the Superfund National Priorities List. It was added to the list in 1990 to address groundwater contamination that resulted from years of circuit board manufacturing operations at the site. The Hotline allegations the OIG reviewed are that: (1) EPA Region 9 inappropriately charged the responsible parties for oversight costs associated with a housing development that is currently being built on the site; and (2) Region 9 has inappropriately expanded the definition of the site, which has complicated the responsible parties' clean-up of the site.

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

**To view the full report, click on the following link:**

[www.epa.gov/oig/reports/2009/20090331-09-P-0131.pdf](http://www.epa.gov/oig/reports/2009/20090331-09-P-0131.pdf)

## Results of Hotline Complaint Review for California Superfund Site

### What We Found

We substantiated that Region 9 inappropriately charged oversight costs to the CTS Printex Site responsible parties for greening activities and other activities. Region 9 charged the responsible parties for costs associated with staff time spent reviewing a housing developer's use of "green building practices." Region 9 also charged the site account for its time spent responding to and preparing for our review. These activities are outside the intended scope of the cost recovery agreement between Region 9 and the CTS Printex Site responsible parties and also do not meet a criterion a Region 9 manager said was used in determining appropriate oversight costs.

We could not substantiate claims that Region 9 expanded the definition of the CTS Printex Site beyond that described in EPA's 1991 clean-up decision document (the ROD). In addition, we could not substantiate claims that other clean-up agreements were reached or implemented, such as use of a "Multiple Sources Strategy."

We also found that Region 9 has not taken appropriate steps to timely amend the 1991 ROD despite significant remedy and land use changes at the site. New human health risks have been identified (vapor intrusion) that were not addressed in the 1991 ROD. Following appropriate procedures is critically important given that private residences have been built on top of the CTS Printex Site.

### What We Recommend

We recommend that Region 9 identify and withdraw all past charges that are inconsistent with the meaning of "oversight costs." The Region should develop and implement procedures to ensure that staff consistently and appropriately charge oversight costs. We also recommend that the Region amend the 1991 Site ROD, develop a cost recovery strategy, and review Agency policies and procedures to properly and timely recover the government's costs from appropriate parties for the ROD amendment work. Region 9 agreed to assume the work to complete the ROD amendment and has agreed to withdraw inappropriate oversight charges. The Region's corrective actions to address future cost recovery issues and review other oversight charges are undecided and should be addressed in its final response to this report.



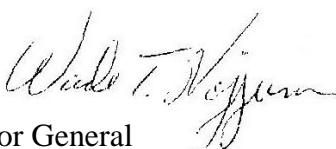
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
INSPECTOR GENERAL

March 31, 2009

**MEMORANDUM**

**SUBJECT:** Results of Hotline Complaint Review for California Superfund Site  
Report No. 09-P-0131

**FROM:** Wade T. Najjum   
Assistant Inspector General  
Office of Program Evaluation

**TO:** Laura Yoshii  
Acting Region 9 Administrator

This is our Hotline report on the subject evaluation conducted by the Office of Inspector General (OIG) of the U.S. Environmental Protection Agency (EPA). This report contains findings that describe the problems that OIG has identified and corrective actions that OIG recommends. The OIG responded to EPA Region 9's draft report comments by making changes to the report, providing responses to Region 9 as appropriate, and conducting an exit conference to discuss OIG responses. This report represents the opinion of the OIG and does not necessarily represent the final EPA position. Final determinations on matters in this report will be made by EPA managers in accordance with established resolution procedures.

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 \$128,038.

**Action Required**

In accordance with EPA Manual 2750, you are required to provide a written response to this report within 90 calendar days. You should include a corrective action plan for agreed upon actions, including milestone dates. We have no objections to the further release of this report to the public. This report will be available at <http://www.epa.gov/oig>.

If you or your staff have any questions regarding this report, please contact Carolyn Copper, Director for Program Evaluation, Hazardous Waste Issues, at (202) 566-0829 or [copper.carolyn@epa.gov](mailto:copper.carolyn@epa.gov); or Jee Kim, Project Manager, at (202) 566-2912 or [kim.jee@epa.gov](mailto:kim.jee@epa.gov).

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## Purpose

On March 13, 2008, the U.S. Environmental Protection Agency (EPA) Office of Inspector General (OIG) received an allegation against EPA Region 9, complaining of continued mismanagement and abuse of authority, as it relates to the CTS Printex Superfund Site in Mountain View, California. Based on information provided in the complaint, we addressed the following objectives:

- Determine whether oversight costs accrued in meetings with the current developer of the site are validly billed to CTS under the Record of Decision (ROD) of 1991 and the consent decree of 1994.
- Determine whether EPA has validly “expanded” the site definition to include releases from other sites that have compromised the responsible parties’ ability to achieve clean-up goals.

## Background

The CTS Printex Superfund Site was used to manufacture printed circuit boards between 1966 and 1985. Operations at the site resulted in groundwater contamination from volatile organic compounds, both inside and outside the site property boundary. Also, high levels of copper and lead were found in soil on the site. In 1985, initial response actions to address contaminated soil and groundwater were conducted by the former site operator and responsible party – CTS Corporation (CTS). The former owner of the CTS Printex property – ADN/Nearon Enterprises – is also a responsible party.

In 1990, EPA listed the CTS Printex Site on the National Priorities List. The California Regional Water Quality Control Board (RWQCB) was designated as the lead oversight Agency at the time the site was listed. RWQCB remained the lead agency until the site was transferred back to Region 9 in 2006.

The 1991 clean-up decision (the ROD) was to operate an existing groundwater extraction system to clean up impacted groundwater to drinking water standards. In 1994, Region 9 and the responsible parties entered into a consent decree that generally characterized the clean-up and oversight costs for which the responsible parties were accountable. The clean-up decision was to continue groundwater extraction until the Maximum Contaminant Levels for designated contaminants at the site were met. As of January 2009, the Maximum Contaminant Levels had not been met at the site.

Plymouth Colony LLC purchased the CTS Printex property in 2006. Later that year, Regis Homes, a housing developer, began redeveloping the property for residential purposes. As of December 2008, construction of all residential units was approximately 30 percent complete. In preparing the site for residential use, Regis Homes removed some material from the site and incorporated vapor intrusion mitigation systems in the construction of the new homes.

## Scope and Methodology

We conducted our work from October 2008 to March 2009 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform our review to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our objectives. An assessment of management or internal controls was not germane to this review and was not conducted.

To accomplish our objectives, we:

- reviewed and analyzed site documents provided by the complainant, Region 9, and RWQCB;
- conducted interviews with relevant Region 9 and RWQCB staff;
- conducted a site visit at the CTS Printex Site and interviewed a consultant for the residential developer of the site;
- reviewed and analyzed site development documents provided by Regis Homes representatives/consultants;
- reviewed and analyzed EPA policy documents on relevant issue areas provided by EPA's Office of Superfund Remediation and Enforcement;
- reviewed and analyzed appropriate sections of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Contingency Plan; and
- reviewed and analyzed relevant site administrative documents (i.e., ROD, consent decree, Clean-up and Abatement Orders, Five-Year Reviews, and billing statements) provided by Region 9 and available in Region 9's Superfund Document Management System.

The documentation we received did not allow us to quantify or to determine all potentially inappropriate charges.

## Results of Review

### ***Region 9 Inappropriately Charged Oversight Costs to Responsible Parties***

EPA Region 9 inappropriately charged the responsible parties for activities that are inconsistent with the meaning of "oversight costs" as defined in the 1994 consent decree and a criterion the Region said it used. The Region's oversight of "greening" efforts of the site developer is unrelated to decisions or activities to ensure that the site remedy remains protective. In addition, the Region's time spent preparing for and responding to OIG requests associated with this review are unrelated to decisions or activities to ensure that the site remedy remains protective.

A Region 9 site attorney informed us that all of the Region's oversight charges at the site were related to activities to ensure that the remedy remains protective of human health and the environment. However, some of the Region's oversight charges were unrelated to ensuring that

the site remedy remains protective of human health and the environment. A former site project manager requested and received from the site developer information on “green building practices” that were to be incorporated into construction of the new homes. This information is unrelated to ensuring that the site remedy is protective to human health and the environment. The project manager’s request was not conducted in response to an Agency or regional request or a work assignment. The project manager stated that she did not share the information she gathered with other staff in Region 9 or EPA Headquarters. The project manager stated that she charged her time associated with this request to the responsible parties. During our review, we discovered that the Region had also been charging the site account for its time spent preparing for and responding to this OIG review. In addition, we learned that, in response to a complaint by a responsible party, Region 9 waived staff attorney charges related to work done by the Agency for Toxic Substances and Disease Registry at the site between January 1, 2004, and December 31, 2005. These activities are unrelated to decisions or activities to ensure that the site remedy remains protective and are administrative responsibilities.

At our request, the Region reviewed the “green building practices” and charges for time relating to OIG’s review and retroactively agreed to remove the charges. The billing documents provided by Region 9 did not allow the OIG to identify all potentially inappropriate charges.

### ***Site Clean-up Remedy and Land Use Significantly Changed, But Key Requirements Were Not Followed***

The site remedy – groundwater extraction – had begun in 1987 but ceased in 1996 in favor of monitored natural attenuation. The extraction system was terminated based on CTS’ and RWQCB’s joint determination that the level of contaminants in the groundwater plume had reached consistently low levels. In 2006, land use had changed at the site from commercial/industrial to residential. The 2005 Five-Year Review identified vapor intrusion as a risk associated with residential use, and vapor intrusion mitigation systems were incorporated into construction of the new residences. However, as of December 2008, no ROD amendment has been drafted or executed by Region 9. Therefore, there was no Agency documentation to note the change in the site remedy or the significant land use change, and to describe remedial action objectives to ensure that the modified remedy remains safe and protects human health and the environment in the long-term. In 2005, Region 9 recognized the potential need for a ROD amendment to establish new remedial actions to address vapor intrusion, but it did not designate a milestone for starting or completing this work.

Agency guidance stresses the importance of transparency in Superfund site-related decision-making and presents methods for categorizing ROD changes and the ways in which changes should be documented.<sup>1</sup> Region 9 has not followed Agency guidance in managing the remedy change at the CTS Printex site. EPA’s guidance classifies monitored natural attenuation as a contingency remedy that, if detailed in the ROD, can be invoked through the issuance of an Explanation of Significant Differences document. The guidance further recommends that if a contingency remedy or criteria for its selection are not well documented in the ROD, a ROD

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<sup>1</sup> *Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents*,” EPA 540-R-98-031, OSWER 9200.1-23P, July 1999.



amendment may be required to invoke the contingency remedy at a later time. The 1991 ROD neither detailed monitored natural attenuation as a contingency remedy nor provided criteria for its selection.

In the 2005 Five-Year Review, Region 9 concurred with recommendations for a ROD amendment. The Five-Year Review stated that:

*If the land use changes from the current commercial/industrial use to residential use, a comprehensive indoor air evaluation for residential use and re-evaluation of the remedy selected in the ROD should be completed to ensure long-term protectiveness. The ROD should be amended as necessary.*

Further, the Five-Year Review discussed vapor intrusion as a specific pathway of concern into current and future buildings. The Five-Year Review recommended that since clean-up goals for vapor intrusion were not established in the 1991 ROD, a ROD amendment may be needed to establish appropriate clean-up goals and long-term actions to address risks from vapor intrusion.

In response to this report, the Region committed to assume responsibility for the work necessary to issue two ROD amendments at the CTS Printex Site. June 30, 2010, is the target date for issuing the first ROD amendment. This first amendment will address the changed land use, the vapor intrusion risk, and the need for new institutional controls. March 30, 2011, is the target date for the second ROD amendment. It will address the groundwater remedy. Region 9 also provided interim milestone dates for completing activities that lead up to issuing the ROD amendments.

### **Site Definition in the 1991 ROD Has Not Been Modified by Region 9**

The site definition described in the 1991 ROD, in accordance with CERCLA, includes areas where contaminants have "otherwise come to be located." In the case of the CTS Printex Site, this included the extent of the contaminated groundwater plume. This groundwater plume extends beyond the CTS Printex property boundary. Areas beyond that boundary were alleged by the complainant to be "off-site" and not included in the original site definition. However, in the 1991 ROD site definition, Region 9 appropriately included areas beyond the CTS Printex property boundary based on the extent of groundwater contamination.

According to CERCLA Section 101(9)(B), a site (or "facility") includes not only the building or structure but also any site or area where a hazardous substance has "otherwise come to be located." The 1991 ROD states that the contaminated groundwater plume spread beyond the physical boundaries of the CTS Printex property. As a result, the site was defined to include the extent of the contaminated plume.

In addition to the 1991 ROD, the RWQCB documented its clean-up decision in a 1991 Clean-up and Abatement Order. The order indicates, but does not definitely conclude, that other parties could be the source of some of the contamination in the Printex groundwater plume. Since that time, it has not been conclusively determined that, as alleged, there are multiple sources for the

contaminants in the Printex groundwater plume. We found no substantiating evidence that the RWQCB or Region 9 made agreements to apply a “Multiple Sources Strategy” to the clean-up of the site. Region 9 disclosed in the 2005 Five-Year Review that there may be other sources of contamination in the Printex groundwater plume. The Region stated that these sources should be investigated and they were to conduct oversight for the assessment of potential sources in the vicinity of monitoring well 17. This activity was scheduled to be completed in 2007-2008. In November 2008, Region 9 staff said that there was no ongoing activity to determine if there were other sources in the Printex groundwater plume, but that additional testing at monitoring well 17 would occur in December 2008 or January 2009.

## Conclusions

We substantiated that Region 9 inappropriately charged oversight costs to the CTS Printex Site responsible parties for greening activities and other activities that are inconsistent with the meaning of “oversight costs” as defined in the 1994 consent decree. The criterion that the Region stated it uses in determining appropriate oversight costs to bill the responsible parties is not consistently used. Agency guidance stresses that Regions should “give careful consideration to the associated costs being charged to PRPs” and should engage in “good working relationships” with responsible parties. The examples of inappropriate oversight charging by Region 9 staff, indicates weak controls over oversight charging. The Region should ensure that all staff that charge time to the Site do so consistently and appropriately, base charges on criteria in cost recovery agreements, and adhere to Agency guidance on oversight and billing of responsible parties.

We cannot substantiate claims that Region 9 has expanded the definition of the CTS Printex Site beyond that described in the 1991 ROD or that other agreements regarding the clean-up approach were made, such as use of a “Multiple Sources Strategy.”

In the course of our review, we found that Region 9 has not taken appropriate steps to timely amend the 1991 ROD despite significant remedy and land use changes at the CTS Printex Site. Procedures for assuring that the site’s remedial actions provide long-term safety and protection were recommended in the site’s 2005 Five-Year Review but have not been implemented. New human health risks have been identified (vapor intrusion) that were not addressed in the 1991 ROD. Following appropriate procedures is critically important given that private residences have been built on top of the CTS Printex Site.

## Recommendations

We recommend that the Region 9 Administrator:

1. Identify and withdraw all past charges that are inconsistent with the meaning of “oversight costs” as defined in the 1994 consent decree. These include, but may not be limited to, charges associated with “green building practices” and charges associated with Region 9 staff time spent preparing for and responding to OIG reviews.

2. Develop and implement procedures to ensure that all Region 9 staff that charge time to the Site consistently and appropriately charge oversight costs based on criteria in cost recovery agreements and adhere to Agency guidance on oversight and billing of responsible parties.
3. Amend the 1991 ROD for the CTS Printex Site as recommended in the 2005 Five-Year Review.
4. Develop a cost recovery strategy and review Agency policies and procedures in order to properly and timely recover the government's costs from all appropriate parties associated with the ROD amendment work.

## **EPA Region 9 Responses and OIG Evaluation**

The OIG reviewed and considered Region 9's comments and we held a meeting to discuss the Region's comments. We made revisions to the report where appropriate. Region 9's comments and the OIG's evaluation of those comments are in Appendix A. Region 9 partially agreed with Recommendation 1 and agreed with Recommendation 3. Based on our review of the Region's comments on Recommendation 1, we modified the original recommendation. In addition, we added Recommendations 2 and 4 based on the Region's comments and the corrective actions the Region proposed to address other recommendations.

The Region has partially completed corrective actions for Recommendation 1. Region 9 agreed to exclude from its oversight bill the time spent on the subject of "green building practices." The Region calculates these costs to be \$129.22, for approximately 2 hours of staff time. Region 9 plans to issue a credit to the responsible parties in the next bill but a definite date was not provided. The Region needs to provide a completion date for this action in its 90-day response (final response). In addition, on November 13, 2008, the Region agreed to remove all charges to the site account for staff time spent preparing and responding to this OIG review. On March 6, 2009, the OIG received confirmation from Region 9 of the removal of 93.75 hours of such charges. The Region needs to provide the dollar value of the 93.75 hours in its final response. The status of the Region's corrective actions for identifying other potentially inappropriate past oversight charges is undecided, with resolution efforts in progress. The Region plans to address this issue in its final response.

The Region plans to address Recommendation 2 in its final response. The status of the Region's corrective actions for this recommendation is undecided with resolution efforts in progress.

The Region agreed with Recommendation 3. After discussion, Region 9 agreed to assume responsibility for the work necessary to issue two ROD amendments for the Site. The Region provided an acceptable corrective action plan, including estimated milestone completion dates. Recommendation 3 is open with agreed-to actions pending.

The Region plans to address Recommendation 4 in its final response. The status of the Region's corrective actions for this recommendation is undecided, with resolution efforts in progress.

## **Status of Recommendations and Potential Monetary Benefits**

RECOMMENDATIONS						POTENTIAL MONETARY BENEFITS (in \$000s)	
Rec. No.	Page No.	Subject	Status <sup>1</sup>	Action Official	Planned Completion Date	Claimed Amount	Agreed To Amount
1	5	Identify and withdraw all past charges that are inconsistent with the meaning of "oversight costs" as defined in the 1994 consent decree. These include, but may not be limited to, charges associated with "green building practices" and charges associated with Region 9 staff time spent preparing for and responding to OIG reviews.	U	Region 9 Administrator			
2	6	Develop and implement procedures to ensure that all Region 9 staff that charge time to the Site consistently and appropriately charge oversight costs based on criteria in cost recovery agreements and adhere to Agency guidance on oversight and billing of responsible parties.	U	Region 9 Administrator			
3	6	Amend the 1991 ROD for the CTS Printex Site as recommended in the 2005 Five-Year Review.	O	Region 9 Administrator			
4	6	Develop a cost recovery strategy and review Agency policies and procedures in order to properly and timely recover the government's costs from all appropriate parties associated with the ROD amendment work.	U	Region 9 Administrator			

<sup>1</sup> 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

## ***Region 9 Comments on Draft Report and OIG Evaluation***



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 9  
75 Hawthorne Street  
San Francisco, CA 94105**

February 6, 2009

### **MEMORANDUM**

**SUBJECT:** Draft Hotline Report:  
Results of Hotline Complaint Review for California Superfund Site  
Project No. OPE-FY-09-0001

**FROM:** Nancy Lindsay  
Acting Assistant Regional Administrator  
Management and Technical Services Division

**TO:** Carolyn Copper  
Director of Program Evaluation  
Office of the Inspector General

Thank you for the opportunity to comment on the draft hotline report titled, *Results of Hotline Complaint Review for California Superfund Site (Project No. OPE-FY09-0001)*, sent to Region 9 for comment on January 21, 2009. The Report concludes with two recommendations: the first regarding oversight billing, and the second regarding documentation of the remedy change at the CTS Printex Superfund Site. Our general comments are outlined in the text below and specific comments can be found in the attached table.

*OIG Recommendation 1: Determine invalid oversight charges previously billed to the responsible parties that are unrelated to the CTS Printex Site remedy as described in the 1991 ROD and referenced in the 1994 cost recovery agreement, and withdraw such charges.*

As an initial matter, the Region disagrees with the characterization of its oversight charges as "invalid." All of the charges EPA has billed to the parties were valid and in accordance with the 1994 Consent Decree, with the exception of the charges for time spent discussing "green building practices" with the developer. As we have discussed, the two settling defendants agreed in the Consent Decree to pay EPA's "oversight costs." The definition of "oversight costs" includes in relevant part the following activities: "reviewing or developing

plans, reports and other items in connection with the Site, overseeing remedial design or remedial actions undertaken by persons other than EPA at the Site, or implementing, overseeing, or enforcing this Consent Decree or other enforcement related costs....” Consent Decree at ¶5. All of the costs EPA incurred and billed to the parties since the entry of the Consent Decree fall within this definition, with the noted exception.

Region 9 is therefore willing to exclude from its next oversight bill the time spent on the subject of green building practices (approximately two hours or \$129.22). The potentially responsible parties (PRPs) should remain responsible for all other costs charged to the Site in the last three years.

## OIG RESPONSE 1

Region 9 agreed to exclude from its oversight bill the time spent on the subject of green building practices. The Region calculates these costs to be \$129.22 for approximately 2 hours of staff time. In addition, on November 13, 2008, the Region agreed to remove all charges to the site account for staff time spent preparing and responding to this OIG review.

During a meeting with the Region to discuss its comments, the Region disagreed that oversight costs should apply to activities linked to the 1991 ROD requirements and that the definition of oversight costs in the 1994 consent decree is broad. Based on our review of the Region’s comments, Recommendation 1 was modified, as follows:

*Recommendation 1: Identify and withdraw all past charges that are inconsistent with the meaning of “oversight costs” as defined in the 1994 consent decree. These include, but may not be limited to charges for “green building practices” discussions and charges associated with Region 9 staff time spent preparing for and responding to OIG reviews of these matters.*

On March 6, 2009, the OIG received confirmation that Region 9 removed staff time charged for preparing and responding to the OIG review (93.75 hours). The Region needs to provide the dollar value of the 93.75 hours in its 90-day response. On March 24, 2009, Region 9 informed the OIG that the Region plans to issue a credit to the responsible parties in the next bill for the 2 hours charged for “green building practices” discussion, but a definite date was not provided. The Region needs to provide a completion date for this action in its 90-day response.

Based on our review of the Region’s comments, the OIG added Recommendation 2 as follows:

*Recommendation 2: Develop and implement procedures to ensure that all Region 9 staff that charge time to the Site consistently and appropriately charge oversight costs based on criteria in cost recovery agreements and adhere to Agency guidance on oversight and billing of responsible parties.*

The Region plans to address Recommendation 2 in its 90-day response. As such, the status of the Region’s corrective actions for this recommendation is undecided with resolution efforts in progress.

*OIG Recommendation 2: Amend the 1991 ROD for the CTS Printex Site as recommended in the 2005 Five-Year Review.*

Region 9 is, in fact, planning to amend the 1991 Record of Decision (ROD) and had set a target date in CERCLIS for completing the amendment: fourth quarter of the 2010 fiscal year. Note, however, that this date was based on a projection that the PRPs would complete a Focused Feasibility Study by September 30, 2009; however, the PRPs are not on track to meet that target. Region 9 will again articulate the path forward with the PRPs, consistent with the recommendation from the 2005 Five-Year Review to reevaluate the effectiveness of the remedy and set a new due date for the Focused Feasibility Study (FFS) of second quarter 2010 and for the ROD amendment of fourth quarter 2011.

In October 2006, the party conducting remedial work at the Site, CTS Corporation (CTS), submitted a draft Focused Feasibility Study for the CTS Printex Site which suggested there were no viable alternatives to the existing remedy, dismissed in-situ technologies as harmful to the environment and difficult to implement, and recommended adoption of a “No Further Action” decision in place of an amended remedy. Region 9 provided comments to CTS by teleconference in January 2007. In March 2007, CTS submitted a revised draft Focused Feasibility Report and Technical Impracticability Evaluation which did not address our comments and contained the same flaws as the original draft. In addition, the revised document stated on page 35 “that with the completion of the revised FFS all response actions under the ROD and Board Order have been completed” and requested “that the Site be considered for a TI [Technical Impracticability] Waiver and subsequent deletion from the NPL.” EPA disagreed with these conclusions and advised CTS that a technical impracticability waiver required further investigation and analysis.

In January 2008, EPA received the 2007 Annual Groundwater Monitoring Report, which suggested that contaminant concentrations were at or near the cleanup goals throughout the Site, a substantial decrease from 2006 contaminant concentrations. To confirm these results, Region 9 requested additional sampling on a more frequent basis. CTS did not respond to this request. In March 2008, the developer offered to conduct quarterly sampling but CTS denied the developer and its contractor access to the Site monitoring wells. According to the developer, the CTS representative stated that, beyond its annual groundwater sampling and reporting activities, CTS does not intend to perform additional work at the Site.

On January 30, 2009, EPA received the 2008 Annual Groundwater Monitoring Report from CTS Corporation. The Report shows Site cleanup goals have not been met. In fact, contaminant concentrations have returned to pre-2007 levels. EPA will therefore require that the Site PRPs prepare a revised Focused Feasibility Study, consistent with previous EPA comments. The purpose of the revised FFS is to evaluate alternative remediation technologies, including and in addition to groundwater extraction and treatment or monitored natural attenuation (MNA). As long as groundwater contamination remains above cleanup goals, EPA guidance directs parties seeking a TI waiver to evaluate – and likely implement – an alternative technology(ies)<sup>2</sup>.

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<sup>2</sup> Guidance for Evaluating the Technical Impracticability of Ground-Water Restoration (EPA 540-R-93-080), October 1993.

If the FFS demonstrates that no technology can meet the cleanup goals in a reasonable amount of time, EPA may determine that achievement of those goals – based on the federally-mandated maximum contaminant levels for drinking water sources – is technically impracticable at the Site and issue a TI waiver of those requirements. In that case, Region 9 would document its waiver through a ROD amendment. Procedurally, a ROD amendment must be preceded by a Proposed Plan, issued for public comment; the amended remedy would then depend on input from the public and state regulatory agencies, as well as the data gathered between now and then. The ROD amendment would likely include the following elements:

- Discussion of the new remedy, if one is selected;
- Selection of Institutional Controls to prevent human exposure to contaminated groundwater and to mitigate potential risks of vapor intrusion;
- Remedial Action Objectives that address the new residential use of the property;
- Additional remedial action(s) involving in-situ treatment technology; and
- A Technical Impracticability (TI) waiver, if appropriate.

If the ROD amendment includes a TI waiver, Region 9 could begin the delisting process by preparing a site completion report and then a Final Close Out Report (FCOR).

## **OIG RESPONSE 2**

Region 9 agrees that a ROD amendment is necessary and plans to amend the ROD after the PRPs conduct a revised Focused Feasibility Study. The Region stated that the fourth quarter of 2011 is the estimated milestone completion date for the ROD amendment. The Region provided information explaining why this milestone date has been selected; it stated that earlier milestones were missed and described delays due to lack of PRP cooperation and responsiveness. OIG believes the ROD amendment schedule needs to be accelerated rather than delayed further. We have revised our recommendation to reflect this and the need for improved management from the Region on this matter.

During a meeting with the Region to discuss its comments, the Region committed to take over responsibility for the work necessary to issue two planned ROD amendments at the CTS Printex Site. OIG revised and renumbered Recommendation 2 as follows:

*Recommendation 3: Amend the 1991 ROD for the CTS Printex Site as recommended in the 2005 Five-Year Review.*

The Region provided estimated milestone completion dates for Recommendation 3. June 30, 2010, is the target date for issuing the first ROD amendment. This first amendment will address the changed land use, the potential vapor intrusion risk, and the need for new institutional controls. March 30, 2011, is the target date for the second ROD amendment, and it will address the groundwater remedy. At our request, Region 9 also provided interim milestone dates for completing activities that lead up to issuing the ROD amendments. These dates may be subject to change. Prior to the June 30, 2010, amendment, the Region plans to issue a feasibility study



on December 15, 2009, and a proposed plan on January 10, 2010. Prior to the March 30, 2011, amendment, the Region plans to issue a feasibility study on September 1, 2010, and a proposed plan on October 30, 2010. These proposed actions meet the intent of the OIG's recommendation. Recommendation 3 is open with agreed-to actions pending.

Based on the Region's commitment to assume responsibility for the ROD amendment work, the OIG added Recommendation 4 as follows:

*Recommendation 4: Review Agency policies and procedures in order to properly and timely recover the government's costs from all appropriate parties associated with the ROD amendment work.*

The Region plans to address Recommendation 4 in its 90-day response. As such, the status of the Region's corrective actions for this recommendation is undecided with resolution efforts in progress.

Please feel free to contact me at (415) 972-3840 or Rich Hennecke, Regional Audit Follow-up Coordinator, at (415) 972-3760.

Attachment

## Attachment

Table 1 Specific Comments

Number	Report Statement/ Finding	Report Reference	Region 9 Comment	OIG Response
1	<p>Region 9 has not taken appropriate steps to evaluate the need for a ROD amendment, or to amend the 1991 ROD despite significant remedy and land use changes at the site. New human health risks have been identified (vapor intrusion) that were not addressed in the 1991 ROD.</p>	<p>At a Glance, Para. 3, page 1</p>	<p>Region 9 has taken appropriate steps to evaluate the need for a ROD amendment, and has outlined for the PRPs a plan to move forward on the Site. This plan is consistent with recommendations from the 2005 Five Year Review and current site conditions. To date, the PRPs have asserted that additional work at the Site is not needed. EPA disagrees and will require the PRPs to conduct a revised FFS, as the next step toward a ROD amendment. If necessary, EPA will take enforcement actions to move the Site toward Site completion.</p> <p>Although the Region has not completed a ROD amendment for the Site, we have taken actions to protect human health and the environment, while also allowing for beneficial reuse of the site. We have worked with developers to take precautionary mitigation measures as appropriate to minimize potential risks for future residents.</p>	<p>See <a href="#">OIG Response 2</a>.</p> <p><a href="#">As stated in the Region's response, a ROD amendment is required to ensure that necessary controls to prevent human exposure to contaminated groundwater and to address vapor intrusion risks are in place. A ROD amendment has not been completed, although residents moved into the housing units atop the Superfund site and more are scheduled to move in during the coming months. Region 9 has not followed the requirements needed to ensure that the site is safe for humans and the environment.</a></p>

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2	In 1994, Region 9 and the responsible parties entered into a consent decree that generally characterized the clean-up and oversight costs for which CTS was responsible.	Background, Para. 3, page 2	The consent decree did not distinguish between the PRPs' responsibilities. For clarification, "CTS was responsible" should be replaced with "CTS and ADN were responsible."	Agree. The sentence has been modified, as follows: <i>"In 1994, Region 9 and the responsible parties entered into a consent decree that generally characterized the clean-up and oversight costs for which the responsible parties were accountable."</i>
3	Due to limitations in the way Region 9 bills its oversight costs, we were unable to quantify inappropriate charges.	Scope and Methodology, page 3	Region 9 billed its oversight costs in accordance with OCFO (Office of Chief Financial Officer) Resource Management Directive 2550 Part D, Chapter 12 (07/25/1988 and currently being updated) and Superfund Cost Recovery Documentation Procedures Manual (1994).	OIG has been unable to independently verify the Region's assertion. The sentence has been modified, as follows: <i>"The documentation we received did not allow us to quantify inappropriate charges."</i>
4	EPA Region 9 inappropriately charged the responsible parties for oversight that was related to "greening" efforts and other activities that do not pertain to the 1991 ROD	Results of Review, Para.1, page 3	Region 9 staff billed a limited amount of time – approximately 2 hours – discussing green building practices with the developer. Region 9 will subtract this time, approximately \$129.22, from its bill.  We could not identify any charges for "other activities" that had been inappropriately charged. Region 9 suggests that this language be removed from the report.	"Other activities" refer to any and all Region 9 oversight of remedial actions that do not pertain specifically to ensuring that the site remedy is protective. The Region also agreed to remove site account charges associated with its time preparing for and responding to this review.  See OIG Response 1.

Number	Report Statement/ Finding	Report Reference	Region 9 Comment	OIG Response
5	In addition, land use had changed at the site from commercial/industrial to residential.	Results of Review, Para. 2, page 4	The land use remained commercial/industrial until 2006. Replacing “In addition” with “In 2006” would create a clearer chronology.	Agree. The change has been made to the report.
6	Vapor intrusion was identified as a risk associated with residential use, and vapor intrusion mitigation systems were incorporated into construction of the new residences.	Results of Review, Para.1, page 4	The following would be a more accurate description of the chronology: “In 2005, EPA (in the Five Year Review) and the prospective developer (in its Phase I/II Environmental Site Assessment), identified vapor intrusion as a potential risk associated with residential use. In response to this potential risk – and in accordance with EPA’s “reasonable steps” letter (dated June 27, 2006) – the developer incorporated vapor intrusion mitigation systems into construction of the new residences.” Region 9 believes this precautionary mitigation measure was appropriate to minimize potential risks for future residents.	OIG generally agrees. We have modified the sentence as follows: <i>“In 2005, during the Five-Year Review, Region 9 identified vapor intrusion as a risk associated with residential use, and vapor intrusion mitigation systems were incorporated into construction of the new residences.”</i>
7	The Region does not currently have specific milestone dates for starting or completing a ROD amendment.	Results of Review, Para.2, page 4	In 2006, the Region presented to the PRPs its plan for a path forward for future actions at the Site. As part of that effort, the Region established in CERCLIS a milestone date for completing a CTS Printex ROD	During our field work, the Region did not inform the OIG of its planned milestone completion date for the ROD amendment, although the OIG asked for a date. However, the OIG will modify the report to

Number	Report Statement/ Finding	Report Reference	Region 9 Comment	OIG Response
			amendment: September 30, 2010. The Region will set a new date, September 30, 2011, based on completion of a revised FFS by the PRPs. Please refer to the enclosed letter for discussion of this timeline.	reflect the date on which the Region has now informed us.
8	Region 9 has not followed Agency guidance in managing the remedy change at the CTS Printex site.	Results of Review, Para.2, page 4	<p>Region 9 has complied with, and will continue to comply with, Agency guidance with respect to modifying the remedy.</p> <p>When the Site became EPA-lead in 2006, the Region presented its plan for proceeding toward a ROD amendment to both the PRPs and the State. There was not sufficient information to support a change in remedy to MNA. In the absence of such evidence, the Region had the PRPs prepare an FFS that evaluated alternative technologies (in-situ treatments), MNA, and continued groundwater extraction and treatment. Although the PRPs have submitted two version of an FFS, they did not provide adequate data and analysis for EPA to prepare a ROD amendment. The current planned schedule is to require the PRPs to conduct a revised FFS by second quarter 2010. EPA</p>	<p>Disagree.</p> <p>A site remedy modification occurred in 1996 when RWQCB terminated the groundwater extraction system in favor of MNA. Agency guidance classifies MNA as a contingency remedy that, if not well documented in the ROD, may require an amendment to the ROD to invoke at a later time. The 1991 ROD neither detailed MNA as a contingency remedy nor provided criteria for its selection. Region 9 did not amend the ROD in 1996 or in subsequent years to document this significant modification in site remedy (as recommended by Agency guidance).</p> <p>In 2006, Region 9 missed another opportunity to amend the ROD when the land use at the site changed from</p>

Number	Report Statement/ Finding	Report Reference	Region 9 Comment	OIG Response
			<p>would follow with a ROD amendment by fourth quarter 2011.</p> <p>Further, in the interim, EPA worked with the PRPs and the developer to allow for productive and protective reuse of the Site.</p>	<p>commercial/industrial to residential. As part of the land use change, the 2005 Five-Year Review report recommended that Region 9 amend the ROD to address modifications to the remedy per the land use change.</p> <p>Region 9 has not complied with Agency guidance, which stresses the importance of transparency in Superfund site-related decision making.</p> <p>See also OIG Response 2</p>
9	<p>However, as of December 2008, Region 9 had not initiated or executed a ROD amendment. In response to an OIG request in December 2008, Region 9 identified a number of actions they plan to take before initiating a ROD amendment. However, the Region did not provide a specific or estimated milestone when a ROD amendment would be started and completed.</p>	<p>Results of Review, Para.5, page 5</p>	<p>On January 30, 2009, EPA received the 2008 Annual Groundwater Monitoring Report from CTS Corporation. The Report shows Site cleanup goals have not been met. In fact, contaminant concentrations have returned to pre-2007 levels. EPA will therefore require that the Site PRPs complete a revised Focused Feasibility Study, consistent with previous EPA comments.</p> <p>EPA will then issue for public comment a Proposed Plan to amend the remedy. The ROD amendment planned completion date is fourth quarter 2011.</p>	<p>During our field work, the Region did not inform the OIG of its planned milestone completion date for the ROD amendment, although the OIG asked for a date.</p> <p>However, the OIG will modify the report to reflect the date on which the Region has now informed us.</p> <p>See also OIG Response 2.</p>

Number	Report Statement/ Finding	Report Reference	Region 9 Comment	OIG Response
10	...Region 9 has not taken appropriate steps to evaluate the need for a ROD amendment, or amend the 1991 ROD despite significant remedy and land use changes at the CTS Printex Site.	Conclusions, Para.2, page 6	Region 9 has taken appropriate steps to evaluate the need for a ROD amendment, and has outlined for the PRPs a plan to move forward on the site. This plan is consistent with recommendation from the 2005 Five Year Review and current site conditions. To date, the PRPs have asserted that additional work at the Site is not needed. EPA disagrees and will require the PRPs to conduct a further FFS, as the next step toward a ROD amendment. If necessary, EPA will take enforcement actions to move the Site toward Site completion.	See <a href="#">OIG Response 2</a> and response to <a href="#">Comment 1</a> .  As stated in the <a href="#">Region's response</a> , a ROD amendment is required to ensure that necessary controls to prevent human exposure to contaminated groundwater and to address vapor intrusion risks are in place. A ROD amendment has not been completed, although residents moved into the housing units atop the Superfund site and more are scheduled to move in during the coming months.
11	Procedures for assuring that the site's remedial actions provide long-term safety and protection were recommended in the site's 2005 Five-Year Review but have not been implemented.	Conclusions, Para.2, page 6	Although the Region has not completed a ROD amendment for the site, we have taken actions to protect human health and the environment, while also allowing for beneficial reuse of the site.  Region 9 worked with the interested parties to conduct a Human Health Risk Assessment (HHRA), where a <u>potential</u> human health risk (vapor intrusion) was identified and consequently addressed (implementation of sub-slab vapor barriers and sub-slab passive depressurization system)	<a href="#">OIG concurs</a> that the site developer has completed a <a href="#">Human Health Risk Assessment</a> . We also stated in our report that the site developer has put a vapor intrusion mitigation system in place. These actions appear to be minimally necessary and reasonable steps that should have been taken. The developer's work on the site does not waive requirements for the Region to complete a ROD amendment.  <a href="#">See also</a> <a href="#">OIG Response 2</a> .

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			which allowed the redevelopment to occur in a timely and safe manner with out holding it up for the full RODA process.	
12	New human health risks have been identified (vapor intrusion) that were not addressed in the 1991 ROD.	Conclusions, Para.2, page 6	<p>The sentence should read as follows: “New potential human health risks have been identified (vapor intrusion) that were not addressed in the 1991 ROD.</p> <p>Although the Region has not completed a ROD amendment for the Site, we have taken actions to protect human health and the environment, while also allowing for beneficial reuse of the site. We have worked with developers to take precautionary mitigation measures as appropriate to minimize potential risks for future residents.</p>	<p>The Human Health Risk Assessment conducted at the site states that the risk assessment for vapor intrusion falls within the EPA Trichloroethylene toxicity criteria. Therefore, it is misleading to state that vapor intrusion is a potential rather than an actual human health risk.</p>



**Appendix B**

***Distribution***

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