



Office of Inspector General
Audit Report

**REPLACEMENT HOUSING AT THE
AUSTIN AVENUE RADIATION SITE**

E1SFF7-03-0117-8100090

March 30, 1998

Inspector General Division
Conducting the Audit:

Mid-Atlantic Audit Division
Philadelphia, PA

Region Covered:

Region 3

Program Office Involved:

Office of Solid Waste & Emergency
Response
Washington, DC



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

OFFICE OF
THE INSPECTOR GENERAL

March 30, 1998

MEMORANDUM

SUBJECT: Final Audit Report on Replacement Housing
at the Austin Avenue Radiation Site
Audit Report No. E1SFF7-03-0117-8100090

FROM: Michael Simmons /s/
Deputy Assistant Inspector General
for Internal Audits (2421)

TO: Timothy Fields, Jr.
Acting Assistant Administrator
for Solid Waste and Emergency Response (5101)

Attached is our final audit report on Replacement Housing at the Austin Avenue Radiation Site. The overall objective of this audit was to determine the reasonableness of costs paid by EPA to build ten new houses. This report contains important findings and recommendations concerning the need for EPA to develop a policy for building houses under Superfund.

In this particular audit, the Office of Inspector General (OIG) did not measure the audited office's performance against the standards established by the National Contingency Plan (NCP). The findings contained in this audit report are not binding in any enforcement proceeding brought by EPA or the Department of Justice under Section 107 of the Comprehensive Environmental Response, Compensation, and Liability Act to recover costs incurred not inconsistent with the NCP.

As signed by Michael Simmons on 03/30/98.

ACTION REQUIRED

In accordance with EPA Order 2750, you as the action official are required to provide us with a written response to the audit report within 90 days of the final audit report date. Your response should address all recommendations, and include milestone dates for corrective actions.

This audit report contains findings that describe problems the Office of Inspector General has identified and corrective actions the OIG recommends. This audit report represents the opinion of the OIG and the findings contained in this audit report do not necessarily represent the final EPA position. Final determinations on matters in this audit report will be made by EPA managers in accordance with established EPA audit resolution procedures.

We have no objections to the further release of this report to the public. If your staff has any questions, please contact Michael Wall, Team Leader, Mid-Atlantic Audit Division, at (215) 566-5800, or Bill Samuel of my staff, at (202) 260-3189.

Attachment

EXECUTIVE SUMMARY

Introduction

Superfund was established by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, which was reauthorized by Congress in 1986 and 1990. The purpose of the program is to protect public health and the environment from the release, or threat of release, of hazardous substances. This protection can range from “removal” actions to control emergency situations, to more permanent long-term “remedial” actions. The Austin Avenue Radiation Site underwent both removal and remedial actions.

The site consisted of 40 properties in six municipalities that were contaminated with radium and thorium, which are considered health hazards when inhaled or ingested. Under a removal action, 18 of the properties were decontaminated and restored at a cost of \$24 million. The remaining 22 properties were addressed through the remedial program at a cost of \$31 million. The remedial cleanup included demolition, sampling, excavation and disposal of the radiologically contaminated materials, temporary and permanent relocations of the homeowners, and reconstruction of the houses. Regarding the 22 properties, initially Region 3 had wanted to demolish most of the contaminated structures and permanently relocate the owners into replacement houses. However, due to public and political pressure, the Region allowed most of the owners the option to either relocate or to have new houses built on site. Ten of the owners chose to rebuild. Eight of the owners chose to permanently relocate. Four of the owners were not given a choice as to how their properties were to be remediated.

Objective

The purpose of this audit was to determine the reasonableness of the costs paid by EPA to build ten new houses at the Austin Avenue Radiation Site.

Results-in-Brief

At the Austin Avenue Radiation Site, Region 3 spent an average of \$651,700 each to custom-build 10 houses (see Exhibit A for “Before” and “After” pictures). The appraised value of the old houses averaged only \$147,000 each. The cost variance occurred because the Region built new houses, rather than relocate the owners, as has been historically the case. Also, the Region undertook the building of new houses without benefit of any guidance from EPA Headquarters. Adopting the position that EPA was obligated to replace “like for like,” even though the original houses had been built decades earlier, resulted in cost becoming less of a factor. The lack of guidance, coupled with the demands made by some property owners and local government representatives, lengthened the process and increased costs.

We do not believe that EPA should be in the house-building business. Furthermore, EPA was not mandated to replicate every facet of an existing structure.

Recommendations

We recommend that the Agency establish a policy whereby instead of building new houses, EPA will give preference to other options that consider the fair market value of the properties. For example, EPA could give the owners: (a) the replacement value of their property, such as is done by the insurance industry; or, (b) the amount EPA would have paid to permanently relocate the owners under the Uniform Relocation Act. Either of these options would enable the owners to arrange for the rebuilding of new homes on their existing lots at a fair and reasonable cost without involving the government in the house-building business. We also recommend that the Agency develop a policy now that explicitly defines equivalent housing before this type of situation occurs again.

Agency Response to
Draft Report

The Agency agreed with our recommendations and indicated that it will evaluate and define: (1) equivalent housing when Superfund activities impact residential properties; and (2) address the available options for providing equivalent housing in lieu of building new houses for impacted residents.

OIG Evaluation

EPA's response meets the intent of our recommendations. We will be available to review the policy as it is being developed, and provide input from our perspective.

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CHAPTER 1

Introduction

Purpose	The purpose of this audit was to determine the reasonableness of the costs paid by EPA to build ten new houses at the Austin Avenue Radiation Site.
Background	Superfund was established by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, which was reauthorized by Congress in 1986 and 1990. The purpose of the program is to protect public health and the environment from the release, or threat of release, of hazardous substances. This protection can range from “removal” actions to control emergency situations, to more permanent long-term “remedial” actions. The cleanups are funded either by the parties responsible for the contamination, or from a trust fund established under the Act. The Austin Avenue Radiation Site underwent both removal and remedial actions all of which was paid for out of the trust fund.
Site History	<p>Austin Avenue consisted of 40 radiologically contaminated properties in six municipalities. Between 1915 and 1922, a company located on Austin Avenue in Lansdowne, Pennsylvania conducted a radium-processing operation. This operation generated approximately 210 tons of “tailings” containing radium and thorium, some of which were mixed into materials used to build or renovate houses within the six municipalities.</p> <p>Radium and thorium are considered health hazards when inhaled or ingested. The threat posed by the contamination at the 40 properties was due to the significant possibility that the radiological contamination may spread into the environment in an uncontrolled fashion. Thus, EPA believed</p>

that the actual or threatened releases of hazardous substances from this site posed a threat to the public health and the environment.

The history of the Austin Avenue Radiation Site is intertwined with that of the Lansdowne Radiation Site. In 1924, a university professor, who had worked at the Austin Avenue company, set up a radium-processing operation in the basement of his home to produce radium-filled implant needles for the treatment of cancer. In 1984, EPA determined that this house, as well as an adjoining house, were radioactive. After the houses were demolished and the site cleaned up, a private developer built four new houses on the property.

EPA Actions

Under a removal action, 18 of the Austin Avenue properties were decontaminated and restored at a cost of \$24 million. The remaining 22 properties were addressed through the remedial program at a cost of \$31 million. The remedial cleanup included demolition, sampling, excavation and disposal of the radiologically contaminated materials, temporary and permanent relocations of homeowners, and reconstruction of the houses. Regarding the 22 properties, initially Region 3 had wanted to demolish most of the contaminated structures and permanently relocate the owners into replacement houses. However, due to public and political pressure, the Region allowed most of the owners the option to either relocate or to have new houses built on site. Ten of the owners chose to rebuild. Eight of the owners chose to permanently relocate. Four of the owners were not given a choice as to how their properties were to be remediated. Instead one was relocated, and the other three had their properties repaired.

PROPERTY	OPTIONS PROVIDED TO OWNER	OWNER'S SELECTION
A	Relocate or Rebuild	Rebuild
B	Relocate or Rebuild	Rebuild
C	Relocate or Rebuild	Rebuild
D	Relocate or Rebuild	Rebuild
E	Relocate or Rebuild	Rebuild
F	Relocate or Rebuild	Rebuild
G	Relocate or Rebuild	Rebuild
H	Relocate or Rebuild	Rebuild
I	Relocate or Rebuild	Rebuild
J	Relocate or Rebuild	Rebuild
K	None	N/A
L	None	N/A
M	None	N/A
N	Relocate or Rebuild	Relocate
O	Relocate or Rebuild	Relocate
P	Relocate or Rebuild	Relocate
Q	Relocate or Rebuild	Relocate
R	Relocate or Rebuild	Relocate
S	Relocate or Rebuild	Relocate
T	Relocate or Rebuild	Relocate
U	Relocate or Rebuild	Relocate
V	None	N/A

Rebuild Option

For the 10 property owners who selected to build new houses, EPA's Record of Decision called for the Federal Government to fund the construction of new houses to replace the ones demolished by EPA. The new houses would cost an estimated \$5 million and would be constructed:

- ⊞ On the same lots once all the debris and contaminated soils were removed.

- △ In accordance with current building codes, using modern materials and methodologies.
- △ With the equivalent amount of floor space as the contaminated houses.
- △ To retain the same architectural character and “curb appeal” as the contaminated houses.

The Record of Decision also allowed each property owner to participate in the selection of a building design, materials, and features for the property.

On December 15, 1994, EPA entered into an interagency agreement with the US Army Corps of Engineers (USACE) in the amount of \$28,300,000 to arrange for the demolition, cleanup, and construction activities during the remedial action. On July 28, 1995, the USACE awarded a \$13,685,414 firm-fixed price contract to remove contaminated materials, renovate houses, and build new houses. The total cost of the contract with modifications was \$15,164,165. As of January 1998, all of the new houses had been turned over to the owners.

Relocation Option

On December 30, 1994, EPA entered into an interagency agreement with the USACE in the amount of \$1,820,630 to arrange for the permanent relocations. The eight owners who opted to relocate were to receive comparable houses in accordance with the Uniform Relocation Assistance and Property Acquisition Policies Act (URA). Under the URA, the Government provides relocation benefits such as moving expenses, as well as a purchase supplement up to a maximum of \$22,500 to enable the owner to relocate to a comparable replacement property. This purchase supplement is the difference between the cost of the replacement property and value of the original property.

According to the URA, relocations must be to a decent, safe, and sanitary dwelling meeting applicable housing and occupancy codes. The dwelling must be adequate in size with respect to the number of rooms and area of living space

needed to accommodate the displaced persons. In addition, the relocation must be to a comparable replacement property. This means that in addition to being decent, safe, and sanitary, the property will be among other things:

- ⊞ Functionally equivalent to the previous house.
- ⊞ Adequate in size to accommodate the occupants.
- ⊞ In a location as desirable as that of the previous house.
- ⊞ Within the financial means of the displaced persons.

As of November 1997, EPA had spent approximately \$1,184,962 on the permanent relocations and all but one of the owners had been relocated.

Noteworthy
Accomplishments

The Austin Avenue Radiation Site presented novel challenges to Region 3 and the US Army Corps of Engineers. This particular project was extremely difficult to manage because of its direct impact on a very concerned community. In addition, EPA and USACE personnel had to address the concerns of Local, State and Federal elected officials as well as those of the individual property owners. We commend the personnel involved with this project for their efforts to solve the complex problems associated with the 10 properties and the numerous issues associated with the remainder of this large project. More than 240 railroad cars (approximately 22,000 tons) of radiologically contaminated materials were carefully excavated and removed from several residential neighborhoods and shipped for disposal at a permitted facility.

Scope and
Methodology

We performed the audit in accordance with the *Government Auditing Standards* (1994 Revision) issued by the Comptroller General of the United States as they apply to economy and efficiency audits. Our review included tests of

the program records and other auditing procedures we considered necessary.

We reviewed the Comprehensive Environmental Response, Compensation, and Liability Act, the Uniform Relocation Assistance and Property Acquisition Policies Act, the Code of Federal Regulations, the Federal On-Scene Coordinator's After Action Report, and the December 1993 Memo from the Assistant Administrator for the Office of Solid Waste and Emergency Response which authorized Region 3 to build new houses. We also reviewed the interagency agreements with the US Army Corps of Engineers (USACE), as well as the contract awarded to clean up the site and build the new houses. In addition, we performed two site visits during which we attended weekly progress meetings and toured houses under construction.

We performed our review in EPA Region 3 where we interviewed the On-Scene Coordinator, and the Section Chief and the Remedial Project Managers (RPMs) from the Remedial Section of the Hazardous Sites Cleanup Division. We also interviewed personnel from the USACE Construction Division and the Real Estate Division. We reviewed voluminous EPA documents maintained by the former and current RPM regarding EPA's decision to build the new houses. These included the Proposed Remedial Action Plan (PRAP), the Revised PRAP, the Record of Decision, and various documents relative to community opposition. We also reviewed log books maintained by the former RPM, costs related to building the new houses, costs associated with temporarily and permanently relocating residents, and the minutes from weekly progress meetings that were submitted by the cleanup contractor.

The scope of our audit focused primarily on the Austin Avenue Radiation Site and the reasonableness of the costs EPA paid to build 10 new houses. Our audit included an evaluation of management controls and procedures specifically related to the audit objective. As part of this audit, we reviewed the Hazardous Sites Cleanup Division's

Annual Reports on Internal Controls for fiscal years 1994 to 1996. There were no weaknesses identified in these reports that pertained to the scope of work we audited.

We completed our survey on May 30, 1997. As a result of our survey, we initiated an in-depth audit on June 2, 1997. The field work for this audit was completed on December 31, 1997. We submitted position papers on potential issues to EPA Headquarters' Director, Office of Emergency and Remedial Response (OERR) on January 5, 1998, and to the Region 3 Acting Director, Hazardous Sites Cleanup Division, on January 6, 1998. We received Region 3's response on January 26, 1998, and met with regional personnel on February 4, 1998 to discuss their response and clarify several issues. On February 2, 1998, OERR responded to the position papers. On February 5, 1998, we discussed this response with OERR personnel and solicited comments on our proposed recommendations.

We issued a draft report on February 11, 1998, to the Assistant Administrator for Solid Waste and Emergency Response. His response of February 26 also included comments from the Region 3 RPM. On March 5, 1998, we met with the RPM to clarify several issues. On March 17, 1998, we received comments from the Administrator of Region 3. On March 19, 1998, we held an exit conference with the Administrator and Acting Deputy Administrator of Region 3, and with representatives of the Office of Solid Waste and Emergency Response. EPA's responses to our draft report are summarized at the end of Chapter 2 and provided in their entirety in Appendix A.

Prior Audit
Coverage

There has been no prior audit coverage of the issues discussed in this report.

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CHAPTER 2

EPA Paid Excessive Amounts to Build Houses

On average, EPA spent over \$650,000 to custom-build houses.

At the Austin Avenue Radiation Site, Region 3 spent an average of \$651,700 each to custom-build 10 new houses. The appraised value of the old houses averaged only \$147,000 each. The cost variance

occurred because the Region built new houses rather than relocate the owners, as has been historically the case. Also, the Region undertook the building of new houses without benefit of any guidance from EPA Headquarters. Adopting the position that EPA was obligated to replace “like for like,” even though the original houses had been built decades earlier, resulted in cost becoming less of a factor. The lack of guidance, coupled with the demands made by some property owners and local government representatives, lengthened the process and increased costs.

We do not believe that EPA should be in the house-building business, or that it is mandated to replicate every facet of an existing structure. In the future, we recommend that the Agency use other options instead of building new houses. One option that was previously suggested by the USACE for the site was to compensate the owners for the fair market value of the properties to enable them to arrange for the rebuilding of new homes on their existing lots. We also recommend that the Agency develop a policy now that explicitly defines equivalent housing before this type of situation occurs again.

Build Versus Relocate

The Region's original intent was to relocate the owners, as had been done in the past at other Superfund sites. According to regional Superfund personnel, building new houses was more costly because of Federal contracting requirements. For example, the "Davis-Bacon Act" mandated increased labor rates, and the "Buy American Act" restricted the sources available for materials. Also, although the USACE was quite experienced with relocating people into comparable houses, neither it nor Region 3 were experienced in building new houses. Moreover, building new houses required more involved negotiations with owners and more oversight on the part of the Government.

Accordingly, on July 1, 1993, Region 3 issued a Proposed Remedial Action Plan (PRAP), which explained that EPA would permanently relocate the owners into comparable housing and demolish most of the houses. In response, however, the Region received over 700 form letters protesting the proposed relocations and demanding that EPA build new houses. The arguments presented against relocating the owners included dwindling property values, a shrinking tax base, and the fear that EPA would leave the municipalities with abandoned lots. The Region, on the other hand, argued that at a former Superfund site—in the same area and with the same problem—it had relocated the owners, demolished the houses, and cleaned up the site upon which four new houses now stood generating tax revenue. The Region also preferred relocation over building because it would cost less, and because regional personnel were inexperienced with building houses and negotiating housing amenities with owners.

EPA strongly urged to build houses.

Region 3 also received pressure to build new houses from Local, State, and Federal officials. For example, on August 24, 1993, the Acting Regional Administrator received a letter signed by two Senators and three Congressmen. The letter strongly urged EPA to reconsider its preference for relocation which seemed based on financial considerations, and to build new houses. In the meantime,

the Region had requested EPA Headquarters (Director, Office of Emergency and Remedial Response) to determine if Superfund monies could even be used to build new houses, pointing out that Agency actions at this site may set precedent for future remedial actions at other sites. On October 19, 1993, the Acting Regional Administrator again asked for a decision, explaining that the local officials were planning to approach the Administrator, and that he was under considerable pressure to finalize the Agency's position on this situation. On December 17, 1993, EPA Headquarters (Assistant Administrator for the Office of Solid Waste and Emergency Response) informed Region 3 that it could—and should—build new houses that were equivalent to those in place prior to demolition. However, the Region received no guidance on how to go about this process.

In order to gain community acceptance,¹ the Region issued a revised PRAP on March 2, 1994, which offered many of the owners the option to rebuild, but asserted that five of the properties could be repaired. Based on community response, EPA modified the revised PRAP. On June 27, 1994, the Record of Decision stipulated that 18 property owners—including 4 whose houses that had been slated for repair—could now have their houses rebuilt. Ten of the owners took advantage of this option. Thus, Region 3 and the USACE now reluctantly entered the custom house-building business.

Cost to Build

Before building the new houses, the USACE paid a contractor to appraise the old houses. As seen in the following chart, EPA paid 300 percent more on average to construct the new houses than the appraised value of the properties; in two instances, the building costs exceeded the appraisals by 400 percent. NOTE: We derived the "COST TO REBUILD" from the amounts proposed by the contractor on the "Contract Unit Price Schedule" included in the firm-

¹ Community acceptance is one of nine criteria evaluated when selecting a remedy. The lack of community acceptance can change a remedy. The Acting Regional Administrator at that time informed us that he did not change the remedy because of political pressure, but rather to gain community acceptance.

fixed price contract awarded on July 28, 1995, plus subsequent modifications to the Price Schedule. This did not include the cost of removing the contaminated materials.

PROPERTY	APPRAISED VALUE	COST TO REBUILD
A	\$103,000	\$354,360
B	\$114,500	\$277,694
C	\$120,500	\$390,628
D	\$141,500	\$422,175
E	\$153,200	\$507,878
F	\$155,000	\$360,395
G	\$161,000	\$706,010
H	\$161,500	\$489,816
I	\$162,700	\$487,449
J	\$200,000	\$911,411
TOTAL	\$1,472,900	\$4,907,816

In addition to the \$4.9 million in direct costs, the Agency paid approximately \$1.6 million in indirect costs. According to Regional and USACE personnel these indirect costs included:

- + Fees paid to architect & design engineer to design the 10 houses \$570,829
- + Fees paid to architect & design engineer to meet with owners to select interior amenities \$ 98,615
- + Time spent dealing with owners & public

officials by:	
EPA	\$ 48,893
USACE Construction Division	150,000
USACE Real Estate Division	149,404
USACE Cleanup Contractor	300,000
+	Davis-Bacon labor adjustment 100,711
+	Landscaping for the 10 houses 141,734
+	Fees for local inspections 9,500
+	Fees for supplemental local inspections <u>40,125</u>
	Subtotal - Additional Costs Incurred \$1,609,811
+	Direct Building Cost <u>4,907,816</u>
	Total Cost <u>\$6,517,627</u>

Cost Became Less of a Factor

The Region knew it would cost more to build new houses, than to take advantage of the USACE’s expertise and relocate the owners. However, it appears that after the Region’s authority to build equivalent houses was clarified, cost became less of a factor. Based on the figures above, EPA spent an average of \$651,700 each to rebuild 10 houses whose appraised value averaged only \$147,000 each. Refer to Exhibit A for “Before” and “After” pictures.

Regional personnel explained that part of the high cost was

Customized replication of 70-year-old houses increased government cost.

attributable to Federal mandates such as the “Davis-Bacon” and the “Buy American” Acts. They also explained that these houses cost more to build because the Region had replicated as closely as possible the original houses, in order to “make the owners whole again.” Unfortunately, this engendered extraordinarily excessive costs, because rather than replacing the original houses with houses of equal value, the Region replaced them with extensively customized replicas. This decision to replace “like for like” coupled with

the demands of some of the owners resulted in the total costs being far higher than they need have been. In dealing with the owners, EPA utilized the services of individuals from a variety of occupations including architecture, interior design, botany, and in one instance, psychiatry.

Personnel from the USACE, Region 3, and the architect negotiated with property owners over the custom design of their new houses. During these “design and fashion” meetings, each owner was afforded the opportunity to choose their amenities such as rugs, cabinets, and bath tubs. Although EPA was extremely generous in the building of the new houses, there were complaints, most of which did not appear warranted. Moreover, some of the cost increases were directly attributable to such complaints, as well as the fact that some owners were more demanding than others. The circumstances associated with Property “G” were the most challenging for Region 3 personnel to resolve.

Property “G”

This property was demolished and the owner received a custom-built house. The contaminated property was a three-story house purchased in 1989. In 1992, the owners stopped paying the mortgage² and by 1994 faced foreclosure. The owners did not live in the house, but their son did, along with two tenants.

The property was described by the Remedial Project Manager as “run-down, unmaintained, and in a large portion, structurally unsound.” EPA’s architect classified the building as being in “fair to poor condition,” noting that “most all of the existing structure roofing/porch structure was rotted or failed” Although the appraised value of the property was only \$161,000, its replication had cost EPA over \$700,000 in direct building costs. EPA has also spent, or will have spent, \$100,000 in moving, storage, and rental fees for the owner’s son. Finally, according to EPA personnel, the owner’s son made many unreasonable demands that were time consuming and costly to resolve.

² Contrary to the Region’s advice, some owners ceased paying their mortgages.

- △ Whereas most of the other owners required three “design and fashion” meetings, this individual required five meetings and numerous phone contacts to discuss the amenities for the new house. According to Region 3 personnel, part of the problem was his inability to come to a decision, and part of the problem was his overt intention to get the best of everything. For example, he demanded a cedar roof because a neighbor had gotten one as a “tradeoff.” He wanted his kitchens upgraded and demanded crystal lighting fixtures and a “Tea for Two” bathtub (an oversized tub installed on a platform to accommodate two people). When Region 3 refused these demands as unwarranted, he claimed that EPA was unfair and had lied to him.
- △ This individual insisted on extensive design changes, upgrades, and tradeoffs. As a result, the new house received a variety of “add-ons” including: a second terra-cotta flue from the basement, a second electrical panel in the basement, a powder room in the basement, 42" kitchen cabinets (instead of the standard 30" cabinets), a second stairway from the kitchen to the basement, a bay window in the kitchen, and a library on the first floor with cabinets and a sink.
- △ Despite the Region having made extensive design changes and concessions, when it came time to move out of the contaminated house, this individual refused. Unless his demands were met, he threatened to “create a disruption and a media show.” As the impasse continued, the Region contemplated contacting the US Department of Justice to seek assistance in dislodging this individual from the premises. Such actions, however, became unnecessary as he finally agreed to temporarily relocate.
- △ Finding a temporary house also presented a problem. This individual refused to consider any of the comparable houses shown him. He demanded to be housed in a mansion, with an in-ground swimming

pool, situated on 20 acres. The Region refused and offered to pay \$1,850 a month to place him into a \$250,000 house, described by the RPM as being “immaculate” and “a house anyone would be happy to call home.” Although this individual finally agreed to relocate to this “dump” as he put it, he still expressed concern that it was too small to accommodate his “stuff.” This included items such as used tires, automobile mufflers, and planks of wood.

- △ Actually moving this individual also proved expensive. EPA spent \$33,864 to move his belongings, plus an additional \$13,990 to rent storage areas (\$9,750 for heated storage + \$4,240 for unheated storage).
- △ Finally, upon entering the contaminated house, EPA was unable to access the upper two stories because this individual had taken the stair treads and the banisters. Upon further investigation, it was learned that he had also removed a variety of other items including: light fixtures, door knobs, door jambs, window mounting hardware, cabinets, the heater, sinks, and toilets.

On the other hand, EPA did refuse to authorize a variety of demands such as: the “Tea for Two” bathtub, a cutting board insert for the sink in the library, excessive telephone line installation, a full bathroom in the basement, imported porcelain tiles, excessive landscaping features, and a new garage. EPA also refused to pay the owners \$50,000 for their unpaid mortgage bills.

As of October 1997, the new house was complete. However, the individual was unable to move in because the municipality refused to issue a “use and occupancy” (U&O) certificate for the house, despite the fact that EPA had paid the municipality inspection fees of \$40,125, or an average of \$5,700 to inspect the new houses. Specifically, the municipality objected to a detached garage which it classified as a “blight determination.” Although the Region pointed out that the poor structural condition of the garage existed

prior to EPA's involvement at the property, and that the garage was not part of the project because it was not contaminated, the municipality demanded the garage be replaced before it would issue a U&O certificate. Coincidentally, this objection was raised because of a complaint by the owner of an adjoining property who: (a) was also receiving a new house from EPA; and, (b) was a local government official deeply involved in many of the negotiations with the Region over the site. As of December 1997, the municipality finally issued a conditional U&O certificate.

To summarize, EPA spent over \$700,000 to build the house seen on the right. It replaced a house appraised at \$161,000. EPA has also spent, or will have spent, an additional \$100,000 in moving, storage, and rental fees for this individual. Moreover, EPA incurred thousands of dollars more in indirect expenses dealing with this individual.



Inspection Fee Issue

Inspection fees demanded from EPA.

One municipality demanded that the Agency obtain permits for the demolition of the old houses and the construction of the new houses. EPA explained that it did not have to obtain permits under Superfund. However, the Region did agree to pay "reasonable" inspection fees beyond the \$9,500 already incorporated in the USACE's cleanup contract for inspections. These fees would allow the municipalities to review the housing designs and inspect the building of the new houses to ensure that they adhered to local building codes. Thereupon, the municipalities were to issue a U&O certificate to enable the owner to occupy the house.

One municipality which took advantage of this offer, claimed \$73,500 for its services, including \$5,000 in legal costs. However, the USACE and the RPM reviewed this claim and concluded that EPA should pay only \$22,400. Dissatisfied with this amount, the municipality negotiated with the Region over a five-month period and in March 1996, received \$40,125.

Conclusion

We believe that EPA should not be involved in the house-building business. While we understand that the Agency believed it needed to build the new houses to achieve community acceptance, we believe it was more generous than it had to be. The Region gave each owner a custom-built house replicating the intricate workmanship of the original house. As a result, the government built 10 houses paying an average of \$651,700 each, when the original houses were appraised at an average of only \$147,000 each. Finally, EPA and the USACE encountered considerable complications from local governments and from some of the very owners who were to receive the new houses.

There currently is no policy available regarding the building of houses under Superfund. Region 3 asked EPA Headquarters to decide if houses could be built. EPA Headquarters replied that they could, but provided no instructions, policy, or guidance. We found no evidence to suggest that EPA was mandated to replicate the houses that had existed at the Austin Avenue Radiation Site. We believe that the Agency should consider other options instead of building new houses. One option that was previously suggested by the USACE for this site was to compensate the owners for the fair market value of the properties to enable them to arrange for the rebuilding of new homes on their existing lots.

However, before this type of situation arises again, where EPA builds houses, the Agency should have in place explicit parameters to define what is meant by equivalent housing. We do not believe that the Agency should be obligated to build customized replicas of the original houses.

Recommendations

We recommend that the Assistant Administrator for Solid Waste and Emergency Response:

- (1) Establish a policy whereby instead of building new houses under Superfund, EPA will give preference to other options that consider the fair market value of the properties. For example, EPA could give the owners: (a) the replacement value of their property, such as is done by the insurance industry; or, (b) the amount EPA would have paid to permanently relocate the owners under the URA. Either of these options would enable the owners to have their houses rebuilt at a fair and reasonable cost without involving the government in the house-building business.
- (2) Develop a policy now that explicitly defines equivalent housing, before this type of situation occurs again.

Agency's Response
to Recommendations

The Assistant Administrator concurred with our recommendations and indicated the Office of Solid Waste and Emergency Response will evaluate and develop policy that will: (1) define equivalent housing when Superfund activities impact residential properties; and (2) address the available options for providing equivalent housing in lieu of building new houses for impacted residents. The policy is expected to be issued by September 30, 1999.

The Assistant Administrator's response also included comments from the Region 3 Remedial Project Manager (RPM) for the Austin Avenue Radiation Site. The RPM asserted that the costs cited in our draft report were not the true rebuilding costs, but were rather only estimates submitted by the contractor.

The RPM believed that our suggestion to compensate property-owners with the fair market or replacement value to

enable them to rebuild presented several problems. Specifically, he asserted that: (1) an amount of money equal to the fair market value would have been inadequate to rebuild comparable structures; (2) the Federal Government is required to provide homeowners with comparable living arrangements, and it cannot provide the homeowners with a cash equivalent to the fair market value of their properties if they desire a replacement dwelling; (3) the Federal Government could not relinquish its responsibility for building comparable dwellings to the homeowners; and, (4) property owners would not accept a forced arrangement.

Finally, the RPM challenged the fairness of our comparing the appraised values of the properties to what it cost EPA to rebuild them. Instead, he believed it would be more reasonable to compare what it cost EPA to rebuild with the houses' replacement values, as might be done by insurance companies.

On March 5, 1998, we met with the RPM and clarified several issues. We also made several minor editorial changes in our report as warranted. However, we did not materially change our position.

OIG Evaluation

EPA's response meets the intent of our recommendations. We will be available to review the policy as it is being developed, and provide input from our perspective.

We disagree with the RPM's comment that it is not fair to compare the cost EPA paid to rebuild the houses to their fair market value. We believe that the fair market or appraised value of a property should be used as the basis to compensate owners. The USACE used such appraisals calculated by its contractor to negotiate the relocation of other Austin Avenue Site owners into comparable housing under the Uniform Relocation Act. Moreover, we contacted two major insurance companies and learned that the insurance industry: (a) takes into consideration a house's worth, even when writing a replacement insurance policy on a new house; and (b) would probably only write a policy on older houses (such as those at Austin Avenue) for their fair market value. The example

illustrated by one agent was a pre-1955 house. It had a slate roof, hardwood floors, and plaster walls and was valued at \$150,000. It would therefore be insured for a “face value” of \$150,000. But if it cost \$200,000 to replicate the house the owner would have to make up the difference or start trading, i.e., get drywall instead of plaster.

Finally, the cost figures we used were taken directly from the contract.

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EXHIBIT A

Before and After Pictures of Properties

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Property A



Before - \$103,000



After - \$354,360

Property B



Before - \$114,500



After - \$277,694

Property C



Before - \$120,500



After - \$390,628

Property D



Before - \$141,500



After - \$422,175

Property E



Before - \$153,200



After - \$507,878

Property F



Before - \$155,000



After - \$360,395

Property G



Before - \$161,000



After - \$706,010

Property H



Before - \$161,500



After - \$489,816

Property I



Before - \$162,700



After - \$487,449

Property J



Before - \$200,000



After - \$911,411

APPENDIX A

Agency's Response to Draft Audit Report

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

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

February 26, 1998

MEMORANDUM

SUBJECT: Draft Audit Report on Replacement Housing
at the Austin Avenue Radiation Site
(Audit Report No. E1SFF7-03-0117)

FROM: Timothy Fields, Jr. /s/
Acting Assistant Administrator
for Solid Waste and Emergency Response (5101)

TO: Michael Simmons
Deputy Assistant Inspector General
for Internal Audits(2421)

As requested, the Office of Solid Waste and Emergency Response (OSWER), in consultation with Region 3, has reviewed the draft audit report entitled Replacement Housing at the Austin Avenue Radiation Site, dated February 11, 1998. This report documents Region 3's efforts to provide replacement housing for residents affected by cleanup activities at the Austin Avenue Radiation Site in Delaware County, Pennsylvania.

I concur with the recommendations stated in the report regarding the development of policy that pertain to replacement housing at Superfund sites. OSWER will evaluate and develop policy to: (1) define equivalent housing when Superfund cleanup activities impact residential properties, and (2) address the available options for providing equivalent housing in lieu of building new houses for impacted residents. We will begin development of the policy this year. Since regional workshops will be required to enable discussion and evaluation of the concerns and options pertaining to these and other residential cleanup issues (including methyl parathion sites), it is estimated that the final policy will be issued by September 30, 1999.

In reviewing the Draft Audit Report and its Executive Summary, I would like to point out that the recommendations in the Executive Summary are not a brief summary of the recommendations in the Draft Audit Report. The Draft Audit Report recommends the development of new replacement housing policy, whereas the Executive Summary goes well beyond this recommendation to state OIG beliefs and suggested options. As stated above, I agree that OSWER should develop such replacement housing policy. I request that the Recommendations Section in the Executive Summary be shortened to agree with the concise recommendations stated in the Draft Audit Report.

Also, it appears that there is a duplication in paragraphs describing the “use and occupancy” certification for one new house. The second paragraph on page 22 appears to be a restatement of the paragraph at the top of page 21. We recommend that these paragraphs be consolidated.

Region 3 has prepared separate review comments which pertain to specific project details included in the Draft Audit Report. Region 3's comments are attached.

Thank you for the opportunity to provide comments on the Draft Audit Report. If you have any questions, please contact Ken Skahn of the Office of Emergency and Remedial Response (OERR) at 703-603-8801, or Elizabeth Harris, OSWER audit liaison, at 202-260-7323.

Attachment

cc:	Mike Shapiro	Dev Barnes
	Abe Ferdas	Johnsie Webster
	Elizabeth Harris	Sharon Hallinan
	Ken Skahn	Barbara Braddock

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107**

SUBJECT: Review of Draft IG's Report on Austin Avenue Radiation Site

FROM: David P. Turner, RPM
Western PA Section (3HS22)

TO: Kenneth Skahn
Office of Emergency and Remedial Response (5204G)

I have reviewed the "Draft Audit Report" regarding the Austin Avenue Radiation Site, dated February 11, 1998 and offer the following comments

Page 1: 2nd Paragraph:

The remedial action also included disposal of the contaminated wastes.

The owners not given a choice of rebuilt or relocation were either :owners of duplex homes where the rebuild housing density on the existing lots could not be assured (since both duplex owners would have had to select the rebuilt option), or they were owners of properties that only had a portion (i.e. porch) contaminated and that portion could be repaired / replaced.

Page 2, "Recommendations":

The Region does not agree with the Draft Report's opinion that the ROD "...went beyond providing equivalent structures that were authorized by EPA Headquarters." EPA HQ reviewed the ROD containing the "same curbside appeal language" and concurred before it's signing.

The IG recommends that EPA use other options instead of building new houses and cites an option, attributed to a suggestion by USACE, "...to compensate the owners for the fair market value of the properties to enable them [the owners] to arrange for the rebuilding of new homes on their existing lots."

This suggested option presents several problems. First, the concept of "fair market value" is quite subjective and is closely associated with "appraised value." In no instance would an amount of money equal to the "fair market value" of any of the properties have been adequate to rebuild, in any comparable fashion, the structures that were destroyed during the response action(s). Second, the Uniform Relocation Act requires that the federal government provide homeowners with living arrangements that are comparable to those destroyed by the government,

if the owners so desire. The federal government cannot merely hand the owners cash equivalent to the “fair market value” of their properties, but must actively seek to provide a replacement dwelling if the owners desire a replacement dwelling. Third, since replacement housing is required by federal law, and, therefore, must be provided for as part of the remedial action, to allow the property owners to use government funding to rebuild their respective dwellings would, in effect, constitute the conduct of a portion of a remedial action by those owners. The legal and practical implications of this are certainly prohibitive. Fourth, no reasonable property owner would accept such a forced arrangement, and EPA would likely end up facing a class action lawsuit.

Even if EPA were to compensate the owners with the “replacement value” of their houses (as opposed to the “appraised value” or the “fair market value”), to expect the homeowners to rebuild their own houses would still be problematic for the reasons noted above.

Page 5 Site History: The W. L. Cummings Radium Refining Company was the company located at the intersection of Austin and Union Aves. Same appears on p. 6 of the Draft Report where the “Austin Avenue Company” is referenced.

Page 6 EPA Actions: The Action also included permanent relocation for affected homeowner selecting not to have their homes rebuilt.

The Draft Report references four owners not given a choice. These four owners referenced were owners of duplexes. These owners were not given a choice because the Region was not able to assure the Borough that the housing density of the respective lot would be achieved. (In order to rebuild these homes on the same lot, meeting the same duplex housing density, each of the respective homes owners would have had to select reconstruction option.) The ROD included this provision (lack of options for these owners) to prevent a possible situation where one owner selected rebuild and the adjoining owner selected relocation.

Page 7 Table: Some errors in Table identified, please check:

Property R: Options provided to Owner: None

Property V: Property addressed under Removal Action - Repair

Page 8. Relocation Options: The Draft Report references last resort housing. Loaning money is just one option under available in the URA’s “housing of last resort” provision.

Page 9 Noteworthy Accomplishments: The remediation proceeded without incident except for a broken wrist suffered by a worker during the dismantlement of a house.

Page 13 , 2nd paragraph - reference page 2 comment regarding EPA HQ authorization.

Page 14 2nd paragraph : the four new homes constructed are two duplexes.

Page 15, “Cost to Build”: The IG states that, EPA paid 300 percent more to construct new houses than the appraised value of the properties...” However, to compare the cost to rebuild the subject houses with the appraised values of those houses is not a fair comparison. Virtually no house had an appraised value that would have provided sufficient funds to rebuild that house. A more reasonable comparison would have been to compare the cost that EPA incurred to rebuild the houses with the “replacement values” of those houses as might be done by insurance companies. If such a comparison were made, it would be shown that EPA’s costs to rebuild the houses were more comparable to the “replacement values” and, therefore, not as disparate as when compared to the “appraised values.” (The appraised values of the properties only had relevance for those instances in which the property owners chose offsite relocation.)

Page 15 : Cost to Rebuild: The Draft Audit Report does not address the fact that the costs paid to rebuild the various structures were included as “unit price” items in the submittal of a formal response to a Request for Proposal (“RFP”) by the contractor who received the government’s contract, under the auspices of USACE, for the project. These are not true costs, but the bidder’s estimate. The position paper also does not note that the selected contractor’s proposal was both the lowest price proposal and the most responsive, responsible proposal for the entire remedy.

The ROD contains information (ROD Table 1) indicating the estimated total cost associated with the remedial action / construction: \$38.4 (MM) (This figure was arrived at by summing the actual option later implemented at each affected property.) The independent government cost estimate performed by the COE for the clean up was \$18.1 (MM). The seven bids the COE received for the job ranged from \$13.7 (MM) to \$39.6 (MM), approximately the range covered by EPA and the COE in their estimates. This is not unexpected since the hazardous waste remediation business is very competitive. The bids were reviewed by two independent teams at the COE and ranked for cost and technical merit. This contract was awarded for \$13.7 (MM) to the contractor determined to give the best value for the government’s dollar.

A comparison of all the contract bid packages indicates that the cost of building the replacement homes is about the same in each package. What this indicates is not that EPA paid too much for the homes, but that its initial estimates of the cost of the homes was too low. This was probably due to our (and the COE) inexperience in this area and an unfamiliarity with the local market for home construction. It is another reason why we agree with the IG that the Agency should not be in the home building business. It is also true, having better estimates of these costs up front, well have changed our decision.

Page 15 2nd paragraph: The four homes referenced: “slated for repair” may be in error, for this description is not entirely accurate. Four homes were not given a choice in the matter (the Pine Street duplex properties).

Page 19 3rd Bullet: The ATSDR psychiatrist provided assistance problems dealing with relocation.

Page. 21: 1st Paragraph: The Borough contracted to a local contractor to provide the services identified in the paragraph,.

Page 24, “Recommendations”: Recommendation number (1) advises that EPA should use remediation options that consider the “fair market value” of the properties. The IG then advises that, “For example, EPA could give the owners: (a) the replacement value of their property, such as is done by the insurance industry...” It is apparent that the concepts of “fair market value” and “replacement value” are not being used as distinct and separate concepts by the IG. EPA, in rebuilding the houses, essentially provided the owners who chose building replacement with the “replacement value” of their properties. The recommendation should be revised to reflect the distinction between “fair market value” and “replacement value.”

APPENDIX A

Region 3's Comments to Draft Report

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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107**

March 17, 1998

SUBJECT: Comments on Draft Audit Report:
Replacement Housing at Austin Avenue Radiation Site

FROM: W. Michael McCabe (3RA00) /s/
Regional Administrator

TO: Michael Simmons (2421)
Deputy Assistant Inspector General for Internal Audits

This responds to the February 11, 1998 Draft Audit Report on replacement housing at the Austin Avenue Superfund Site.

First, the Region agrees that the Agency should not be in the home building business. As the draft report indicates, the Region's original proposal was to relocate families into comparable replacement off-site homes under the Uniform Relocation Act (URA). The intense public opposition which occurred when the proposed relocation plan reached the community, however, challenged our established approach.

It was not simply the affected homeowners who opposed the Agency's proposal. The Region received almost eight hundred letters in protest, as well as significant bipartisan input from federal, state and local representatives. The Region carefully considered this outpouring in light of EPA's mandate, under the National Contingency Plan, to evaluate community acceptance in the course of remedy selection. In response, and after the Region had secured an opinion from the Agency's Office of General Counsel clarifying our authority, the Region included rebuilding as an alternative to off-site relocation. At the time this decision was made, the additional costs associated with this option were estimated to be minimal in relation to the total costs of the cleanup.

In its evaluation of this decision to include the rebuild option, the report focused on the replacement of individual homes and not the community as a whole. When the Region modified its remedy in an effort to secure community acceptance it was not dealing simply with a few disgruntled homeowners, but with a community that was passionate and inflamed. The

community found the prospect of vacant lots, diminished property values, and an eroded tax base looming over them. Vacant lots to these communities were not the wholesome places where small children learn to play baseball, but places where used tires and other unwanted items are dumped. In Lansdowne, a small borough where most of the contaminated homes were located, the prospect of a reduced tax base and a further erosion of property values was a frightening reality. For this reason the community pushed, through its elected officials, to modify the proposed remedy to include on-site replacement of dismantled homes. Superfund, by design, has a robust community involvement process which includes the very real possibility that the community can change the remedy. Such a change in fact occurred at Austin Avenue after the Region considered all of the remedy selection criteria—including community acceptance and cost. Nonetheless, as the federal agency charged with protecting the public health and the environment, we have an obligation not only to fulfill our fundamental mission in the affected communities we serve, but also to manage costs for the benefit of the taxpayer in general. It is arguable that in implementing the decision to rebuild in the absence of replacement housing guidance, too much emphasis was placed on meeting homeowner preferences and too little on limiting costs.

The Region also agrees that there is a need for guidance that provides a clear definition of what a “replacement dwelling” is and is not. The draft report’s evaluation of the Region’s vision of “replacement dwellings” turns almost exclusively on cost, using the difference between the assessed value of the home and the rebuild cost as the benchmark. In reality, the assessed value of a home bears no relation to the cost to construct that home today and therefore has no place in an evaluation of the Region’s rebuild costs. The reasonableness of the Region’s rebuild costs in this case can be measured only by reference to construction costs incurred by others in constructing similar homes in similar locations at a similar time. The commonly accepted insurance industry concept of “replacement cost” lends support to this position. A replacement insurance policy would pay for the actual costs of construction, as EPA’s remedial action did, and is not pegged to the assessed value of the home.

Finally, the Region found itself on the relocation “cutting edge” at the time the Austin Avenue remedial action was selected. Our experiences in implementing this remedial action have placed the Region in a unique position to assist in development of guidance that may be useful in avoiding many of the problems discussed in the draft report. The Region stands ready to provide such assistance in an effort to ensure that relocations performed during Superfund cleanup actions are cost effective as well as responsive to community needs.

APPENDIX B

Distribution

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