United States General Accounting Office

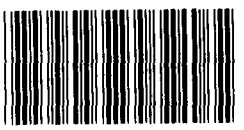
GAO

Report to Congressional Requesters

October 1992

# ENVIRONMENTAL CLEANUP

# Observations on Consistency of Reimbursements to DOD Contractors

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GAO

**United States**
**General Accounting Office**
**Washington, D.C. 20548**

**National Security and**
**International Affairs Division**

B-246822.4

October 22, 1992

The Honorable John Conyers, Jr.
Chairman, Committee on Government
Operations
House of Representatives

The Honorable Barbara Boxer
House of Representatives

This report responds to your January 10, 1992, request for information on Department of Defense (DOD) reimbursement of defense contractors' environmental cleanup costs. It presents the case studies you asked us to develop regarding four locations affecting three large defense contractors:

- a rocket testing and manufacturing site near Sacramento, California, operated by Aerojet-General Corporation (see app. I);
- two waste disposal sites near Seattle, Washington, which received hazardous waste from the Boeing Company and others (see app. II); and
- a former aircraft manufacturing site in Burbank, California, operated by Lockheed Corporation (see app. III).

We previously provided you an analysis of laws and regulations pertaining to the reimbursement of environmental cleanup costs[1] and a fact sheet summarizing available data on the amount of DOD reimbursements to large contractors for such costs.[2]

## Results in Brief

In the cases examined, the government has reimbursed two of the contractors about $50 million through mid-1992, but the potential future payments could be many hundreds of millions of dollars.

DOD's reimbursements to contractors in these cases occurred in different ways, with reimbursement decisions varying widely. Contractors were reimbursed through overhead amounts in prime contracts, subcontracts, and a negotiated settlement. Decisions on reimbursement varied from complete denial to reimbursement in proportion to the government's share of a company's business. Also, even though one company's claim as a

[1]GAO/OGC B-246822.2, Feb. 3, 1992.

[2]DOD Environmental Cleanup: Information on Contractor Cleanup Costs and DOD Reimbursements (GAO/NSIAD-92-253FS, June 26, 1992).

prime contractor was initially denied, the company was reimbursed about $7 million through November 1991 as a subcontractor at the same site.

Contracting officers varied widely in the extent of investigations into possible wrongdoing by contractors. One contracting officer conducted an extensive investigation into the contractor's compliance with laws and regulations and identified citations for violations of state discharge permits. As a result, he initially denied the prime contractor's claim for reimbursement, although later there was a partial settlement. In contrast, other contracting officers' investigations for their decisions were not as detailed.

These variations can occur because federal acquisition laws, regulations, and policies do not provide specific guidance to decisionmakers on how to treat environmental cleanup costs. The Air Force raised questions about guidance in 1987, and since 1989, DOD in coordination with civilian agencies has been developing a cost principle that addresses some of the issues. According to DOD officials, the principle is on hold because of a moratorium on new regulations.

The few cases examined and their ongoing nature prevent our making detailed recommendations for the reimbursement process at this time. However, the studies indicate questions which should be considered as DOD develops the related policies. Also, the varied types of reimbursements made in the cases examined indicate that a cost principle alone may not be enough to prevent continued inconsistent reimbursement decisions.

## Background

The four case study sites are among the nation's highest priority sites being cleaned up under the Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as Superfund. Under Superfund, parties found to have contributed to the pollution of a site may be fully responsible to clean up contaminated sites whether or not they committed any wrongdoing or were only one of many contributors. The parties that can be held liable for cleanups are present or past owners or operators of the contaminated sites, generators of hazardous wastes found on the sites, or transporters of hazardous wastes to such sites.

The U.S. Environmental Protection Agency (EPA) is the principal agency implementing the Superfund legislation. A primary EPA responsibility is to identify potentially responsible parties and negotiate cleanup agreements

with them, or in cooperation with the Department of Justice, to enforce their cleanup obligations in court. Since liability under the statute is not a function of culpability, EPA does not investigate wrongdoing in assessing Superfund liabilities.

## Case Study Sites

Two of the case study sites were contractor owned and operated manufacturing sites, and the other two were disposal sites operated by third parties. Aerojet's rocket testing and manufacturing site in Sacramento, California, was contractor owned. The two sites used by Boeing—Western Processing and Queen City Farms—were owned and operated by third parties near Seattle, Washington. Lockheed's aircraft manufacturing site in Burbank, California, was contractor owned.

Aerojet is cleaning up soil and groundwater contamination caused by the use of hazardous substances at the site as far back as the 1950s. As of November 1991, Aerojet had spent nearly $75 million on site investigation and other preliminary cleanup activities. Aerojet annually updates its claim for reimbursement reflecting current expenses. Final cleanup is expected to be very expensive, costing many times the amount spent so far. The cleanup should begin in 1996 and continue into the next century.

About $101.3 million has been spent through June 1992 to clean up soil and groundwater contamination at two waste disposal sites used by Boeing from 1954 to 1977. Studies are still in process at one site, and cleanup is expected to be completed at the other in the mid-1990s. Cleanup and monitoring efforts for the two sites are expected to continue into the next century. The current estimated future cost is $78 million for the two sites.

Lockheed has spent $9 million as of May 1992 to clean up soil and groundwater contamination at its Burbank facility. The contamination was caused through the use of hazardous materials in manufacturing aircraft. Lockheed has completed site investigation work and will construct facilities to remove the contaminants from the groundwater. The cleanup of both groundwater and soil is expected to be completed by the turn of the century, and to total about $219 million.

## DOD Reimbursement of Cleanup Expenses

When a company incurs Superfund environmental cleanup costs, it may seek reimbursement from other parties or include the costs in the price computations of its products. In cases where DOD has entered into

contracts that require detailed cost data, companies' claims may itemize amounts for the cleanup expenditures. Such itemized reimbursements by DOD for the cases we studied totaled about $50 million through July 1992.

Currently, no provisions in federal acquisition laws and regulations specifically address environmental cleanup costs incurred by government contractors. In the absence of prohibitions, contractors may claim cleanup costs as overhead expenses. Ordinary and necessary business overhead expenses may be reimbursed under the Federal Acquisition Regulation (FAR) if they are allocable, reasonable, and comply with contract terms and federal procurement regulations.

The Defense Contract Management Command administers DOD contracts through contracting officers assigned to defense contractors. The contracting officers are responsible for determining the allowability of costs, such as environmental cleanup costs, under DOD contracts, and are also involved in negotiating specific contract costs such as overhead rates in forward pricing agreements. The Defense Contract Audit Agency (DCAA) helps contracting officers carry out their responsibilities by auditing the costs charged by contractors to government contracts and making recommendations on their allowability under the contracts.

## DOD Reimbursement Decisions Have Not Been Consistent

In the cases we studied, DOD's decisions on environmental cleanup reimbursement claims varied on whether and how much to reimburse contractors. In particular, we noted inconsistency in the way DOD determined allowability of claimed costs. For example, the contracting officer investigated potential wrongdoing in greater depth in one case than in the others.

### Sacramento Site

For cleanup expenses at the Sacramento site, the contracting officer interpreted the reasonableness standard as requiring a contractor to be in compliance with federal and state environmental laws and regulations for cleanup costs to be allowable. The contracting officer investigated the company's compliance and identified evidence of state discharge permit violations. He denied the claim for reimbursement.

Aerojet contested the contracting officer's findings and appealed the denial to the Armed Services Board of Contract Appeals. During the appeal process, the Air Force negotiated on behalf of the government with the company. The Air Force settled the case by agreeing to government

reimbursement for $29 million of $62 million claimed through June 1989 for cleanup-related activities. The Air Force's trial attorney on the case stated that Aerojet's alleged violation of state discharge permits notwithstanding, the Air Force agreed to a payment because of potential government liability. Among issues considered were whether Aerojet had been required to use hazardous substances under DOD contracts and whether Aerojet had been indemnified for environmental damage. The parties remain in litigation for costs after June 1989. The company believes that all cleanup expenses should be allowable.

Even though Aerojet's original claim was denied as a prime contractor, Aerojet received over $5 million in cleanup cost reimbursements for the same period as a subcontractor on DOD contracts with Martin Marietta, and a total of $7 million through November 1991. Aerojet included cleanup costs as overhead charges, which were accepted, pending final determination of allowability, under the prime contractor's DOD-approved purchasing system.

Aerojet obtained insurance reimbursements for legal and related fees. According to an Aerojet official, the claim for insurance reimbursement of cleanup costs went to court, where the jury found under the judge's instruction that because Aerojet should have expected that its past disposal practices were causing pollution, it was precluded from recovery. Aerojet has appealed the decision.

In 1979, the California Attorney General had filed suit against Aerojet for violation of environmental laws. However, the state did not pursue the suit because of a consent decree by EPA. The consent decree did not contain an admission of guilt, but included payments to the state for damages to natural resources.

## Seattle Area Sites

With regard to the Seattle area disposal sites, the contracting officer did not perform as detailed an investigation as was done in Sacramento. However, he initially questioned whether reimbursements for Superfund cleanup costs were fines that could not be paid under federal law and regulation. Such costs resulting from violations of federal, state, or local laws and regulations are unallowable, except when incurred as a result of contract compliance or written instructions from a contracting officer.

After additional inquiry, including review of an EPA consent decree, the contracting officer agreed in 1987 that reimbursement would be

appropriate. To date, the government has reimbursed Boeing $11 million to $13 million of the total $101.3 million cleanup costs incurred through June 1992. Because DOD's interim payments reimbursed Boeing's cleanup expenditures as a percentage of overhead expenses, the payments included profits. The total payments were based on reimbursement in proportion to the government's share of Boeing's overall operations.

Boeing sued its insurers and obtained partial coverage of cleanup costs. In 1990, evidence was presented showing that Boeing "expected or intended" pollution to occur at the Western Processing site in 1971, but continued to use the site until 1977. As a result, according to Boeing officials, Boeing did not have insurance coverage for a portion of cleanup costs at the Western Processing site. DCAA notified Boeing that some of the 1971-77 costs may not be allowable, based on this ruling. Boeing protested this decision, stating that it was following accepted industry practices in using the disposal site. Boeing cited as evidence that several other businesses and federal agencies also used the site during the period when the contamination occurred. The contracting officer has not yet raised this issue with Boeing.

## Burbank Site

The contracting officer at Lockheed has agreed in a Memorandum of Understanding to allocate allowable cleanup costs as general and administrative costs in overhead. In effect, the contracting officer has agreed to allow Lockheed to submit reimbursement claims, but has reserved judgment on the allowability of the claim.

The Air Force had raised the issue of allocation of costs as a result of Lockheed's decision to move the major division working at the Burbank site to Georgia. The current agreement would allocate Burbank cleanup costs to all Lockheed business segments. DCAA, however, has stated in this case that the segment responsible for the contamination should absorb the costs of cleanup because that would more fairly allocate costs.

The contracting officer did not independently investigate potential wrongdoing with regard to the Burbank site, and did not require Lockheed to pursue reimbursement from its insurers prior to submitting a claim for reimbursement to DOD. He instead intends to reduce Lockheed's claim for anticipated insurance recoveries. This contrasts with the other cases, where the companies have already pursued insurance recovery.

## More Cost Allowability Guidance Being Developed

Contracting officers rely on statutes and regulations in determining the allowability of items claimed by contractors. In the absence of specific provisions dealing with a subject, a cost principle adopted by the FAR Council may provide guidance. The FAR Council has two subcouncils made up of representatives of defense and civil government agencies that develop cost principles through rule-making procedures. They issue principles in draft and consider comments from interested parties before adopting a final principle.

Development of a cost principle to guide contracting officers on claims for reimbursement of costs for environmental cleanup began in 1987 with an Air Force request. A number of approaches have been advanced since a first draft principle in 1989, ranging from acceptance of allowability in the absence of a finding of violations of environmental laws, to limiting allowability to only government-owned, contractor-operated facilities.

The latest draft was completed by a joint DOD and civilian agency ad hoc group in December 1991 and addresses both preventive and cleanup costs. It would generally allow expenses to prevent pollution, but costs to correct damage would be unallowable unless a contractor demonstrated that it (1) performed under a government contract that contributed to the pollution; (2) acted prudently, complied with then-existing environmental laws and regulations, and followed generally accepted industry practices; (3) acted promptly to minimize the damage and costs; and (4) exhausted or was diligently pursuing such sources as insurance and other responsible parties to defray the cleanup costs. Like other cost principles, the one-page draft covered primarily general considerations.

The draft has been approved by the FAR Council's Defense Acquisition Regulation Council and the Civilian Agency Acquisition Council. However, according to DOD officials, the draft has not been released for public comment because of a moratorium on new federal regulations announced by the President in the State of the Union address in February 1992.

In discussing these issues with DOD officials, we were told that there is a growing awareness that DOD's reimbursements to contractors constitute an emerging element of cost that promises to be significant. DOD officials stated that DCAA released additional guidance to its auditors dated October 14, 1992, including the Director of Defense Procurement's determination that environmental costs should be treated as normal business expenses. The guidance states that such costs are generally allowable if they are reasonable and allocable, but not if the cleanup resulted from contractor

wrongdoing. The guidance also provides additional detail on such matters as how to address insurance recovery and potential wrongdoing. DOD officials stated that the guidance to DCAA auditors will also be provided as information for the acquisition community.

The guidance discusses reimbursements only as normal business expenses. According to DOD officials, payments in the selected case studies were treated as normal business expenses allocated to overhead.

## Observations and Recommendation

Because Superfund cleanup liabilities can result without a finding of culpability and the cost of Superfund cleanups can be large, contracting officers' decisions on the allowability of claims are both difficult and important. However, DOD's treatment of environmental claims has varied in key respects and has resulted in inconsistent decisions among claims. This is especially apparent regarding potential wrongdoing, where DOD's actions ranged from aggressive research and strict interpretation of regulations, to a more limited review, to no oversight at all.

Reimbursements in the cases we examined occurred in a variety of ways, including through overhead in prime contracts, subcontracts, and a negotiated settlement. The resulting decisions varied in ways such as whether profits were included in computations, or whether payments were allowed at all.

Our studies involved ongoing negotiations and decisions in only three cases. Thus we do not have a basis for detailed recommendations for each of the issues involved. However, we believe that the magnitude of costs in the case studies, the lack of knowledge as to their ultimate total costs, and the issues involving whether and how such costs should be reimbursed indicate a need for greater policy guidance. The recent additional DCAA guidance to its auditors should aid consistency in addressing some of the issues we noted relating to determinations of wrongdoing. However, the cases still demonstrate a need for guidance that would resolve questions such as:

- Should payments to state regulatory agencies for environmental damage that are not called fines or penalties be allowable?
- Should Superfund cleanup costs be treated as ordinary business expenses, or as extraordinary costs requiring additional controls?
- Should Superfund cleanup reimbursements be claimed in a manner that permits contractors to claim allowances for profit?

- Should violations of laws and regulations result in total or partial denial of a claim?

Accordingly, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition to expand the guidance currently being considered by DOD to include the varied types of reimbursements encountered in the claims from its contractors.

## Scope and Methodology

To develop the case studies, we interviewed contractor officials, DOD contracting officers, DCAA auditors, and other DOD officials. We also reviewed various documents to determine the status of cleanup efforts and past and future cleanup costs. While we did not verify any of the cost data provided, some of the data had been verified by DCAA.

We interviewed officials from EPA and state environmental control agencies to determine the contractors' compliance with federal, state, and local environmental laws and their process for assessing responsibility for cleaning up the case study sites. We reviewed agreements between EPA and the contractors to identify cleanup requirements, costs, and milestones.

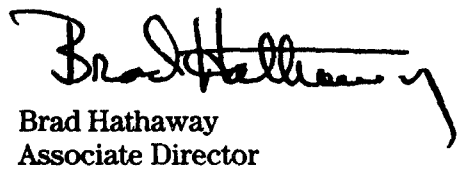
Our work was conducted at Aerojet and Lockheed headquarters in California and Boeing's headquarters in Washington. We also conducted work in Washington, D.C., at the Office of the Secretary of Defense, headquarters offices for DCAA, and the Defense Contract Management Command. Further, we visited EPA's Region IX and X offices and state environmental control agencies in California and Washington. We conducted our work from March 1992 through October 1992 in accordance with generally accepted government auditing standards.

As you requested, we did not obtain official agency comments on this report. However, we discussed the issues with DOD and contractor officials, who generally agreed with the facts in this report. We incorporated their additional information and comments where appropriate.

Unless you publicly announce its contents earlier, we plan no further distribution of the report until 30 days after its issue date. At that time, we will send copies to appropriate congressional committees; the Secretary of

Defense; and the Director of the Office of Management and Budget. We also will make copies available to others upon request.

Please contact me at (202) 275-4268 if you or your staffs have any questions concerning this report. Major contributors to this report are listed in appendix IV.



Brad Hathaway
Associate Director
Air Force Issues

# Contents

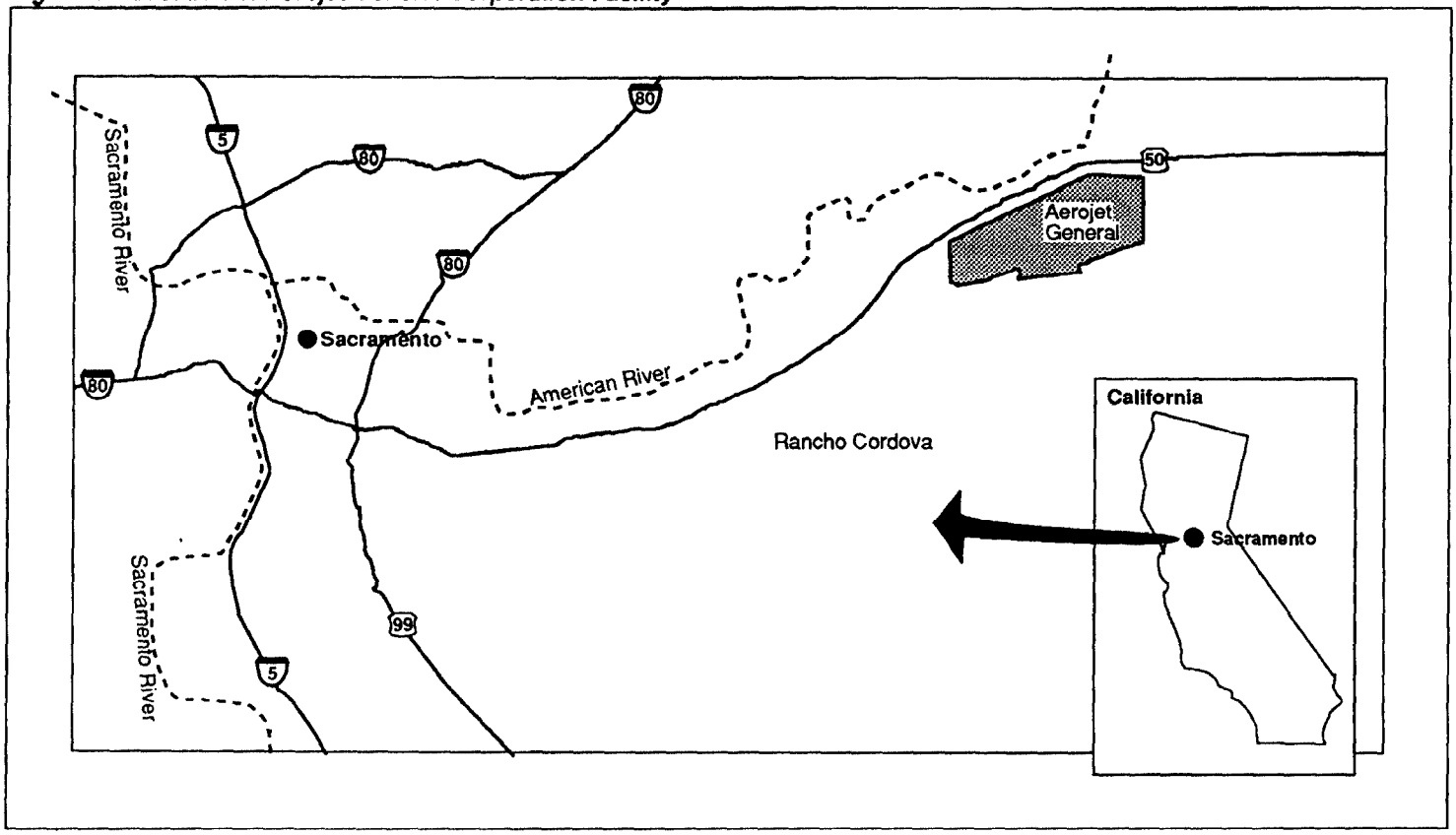
## Abbreviations

| | |
|---|---|
| DCAA | Defense Contract Audit Agency |
| DOD | Department of Defense |
| EPA | U.S. Environmental Protection Agency |
| FAR | Federal Acquisition Regulation |

# Aerojet General Manufacturing Site, Sacramento, California

Aerojet General Corporation is a wholly-owned subsidiary of Gencorp Incorporated, which was the 34th largest DOD prime contractor in fiscal year 1991 with approximately $547 million in contracts awarded that year. The Aerojet case involves the company's Sacramento manufacturing facilities located on the outskirts of Sacramento, as shown in figure I.1. The facilities are used for developing, testing, and manufacturing solid and liquid rocket motors. These activities have been conducted on the site since the 1950s.

**Figure I.1: Location of Aerojet General Corporation Facility**




## Background

In 1979, groundwater contamination was discovered in several private wells surrounding Aerojet's 8,500-acre production site. The wells contained volatile organic compounds, including trichloroethylene, a solvent used in rocket manufacturing. Aerojet then confirmed the presence of such compounds in wells on its site. Aerojet's groundwater testing identified trichloroethylene and other solvents such as

perchloroethylene and chloroform. These substances are on the Superfund list of hazardous substances. The origin of the groundwater contamination was traced to more than 250 areas on the Aerojet site. Several industrial activities near these areas contributed to the contamination. These activities also caused soil contamination in the areas and include the following:

- discharges of wash-down water containing chlorinated solvents and propellants into ponds, drains, and low areas;
- discharges of chlorinated solvents and metals;
- cleaning of liquid rocket test stands with solvents;
- discharges of chemical waste water to shallow clay-lined ponds; and
- burning of waste materials containing solvents, heavy metals, and rocket fuel components.

Seven separate plumes (accumulations or concentrations of chemicals) have been identified in the groundwater underneath the Aerojet site. These plumes range from 1/2 mile to 3 miles in length. While the safe drinking water standard for trichloroethylene is 5 parts per billion, concentrations up to 100,000 parts per billion have been detected in the groundwater.

In 1982, EPA listed the Aerojet site on its National Priorities List as one of the 10 highest risk sites in the United States. EPA's rankings are based on the type, quantities, and toxicity of wastes; the number of people potentially at risk of exposure to the contaminants; and other factors.

## Cleanup Efforts

In 1979, the California State Attorney General filed suit to require Aerojet to (1) stop discharging hazardous chemicals in a manner that would continue to contaminate the groundwater and (2) remove hazardous chemicals from the soil and groundwater. Aerojet officials stated that they had already begun to implement such activities in 1979, including sealing floor drains in manufacturing buildings, and transporting over 8,000 cubic yards of contaminated soil to an approved disposal site. In 1981, Aerojet started constructing water treatment facilities to control the off-site migration of the contaminated groundwater.

During 1983 to 1989, EPA, in cooperation with state agencies, negotiated with Aerojet for cleaning up the contamination pursuant to Superfund requirements. During this period, the Superfund Amendments and Reauthorization Act of 1986 strengthened and clarified the original legislation, thus prolonging negotiations.

Under a 1989 partial consent decree, Aerojet agreed to (1) complete a Remedial Investigation/Feasibility Study to determine the nature and extent of contamination and identify potential remedies and costs, (2) operate groundwater treatment facilities to prevent further off-site migration and to begin removing contaminants from the groundwater, and (3) monitor private water supply wells and the nearby American River for contamination. Site investigation work is scheduled to be completed in 1996.

Aerojet has constructed nine water treatment facilities. As of April 1992, the facilities had treated about 20 billion gallons of water and removed more than 114,000 pounds of contaminants.

After the site investigation is complete, EPA, in conjunction with state agencies, expects to determine the remedial actions required for final cleanup of the soil and groundwater contamination. Several factors, including the cost-effectiveness of different cleanup methods, will be considered in selecting the appropriate method. A final consent decree will then be negotiated to detail Aerojet's cleanup responsibilities. Final cleanup activities are expected to continue well into the next century.

## Past and Future Costs

Aerojet spent approximately $75 million during 1980-91 on cleanup-related activities. Aerojet has spent about $53 million, or 72 percent of the total expenditures, on direct cleanup-related activities such as site investigation, sample analysis, and construction and operation of groundwater treatment facilities, as shown in table I.1. The remaining $21 million has been spent on indirect activities, including payments to the EPA and the state for consent decree implementation and legal costs related to Aerojet's litigation with private parties, EPA, and the state. Aerojet annually updates its claim for reimbursement to reflect current expenditures.

**Table I.1: Aerojet Cleanup Expenditures 1980-91**

Dollars in thousands

| Type of expenditure | Total |
|---|---|
| **Direct costs of cleanup** | |
| Well drilling & data interpretation | **$18,009** |
| Construction & operation of groundwater treatment facilities | **15,364** |
| Site investigation and sample analysis | **16,313** |
| Technology development | **3,685** |
| **Subtotal** | **$53,371** |
| **Indirect costs of cleanup** | |
| Legal and legal support | **$12,052** |
| Private suit settlement | **450** |
| Consent decree administration by EPA | **4,335** |
| Consent decree implementation by EPA | **4,337** |
| **Subtotal** | **$21,174** |
| **Total** | **$74,545** |

Source: Aerojet General Corporation

Aerojet estimates that it will spend another $68 million through 1996-99 to implement the partial consent decree. The cost to complete final cleanup efforts has not been determined. Nevertheless, EPA officials expect the cleanup to be very expensive, with total costs many times greater than the amount spent to date. One EPA model estimates cleanup costs up to 15 times greater than for the remedial investigation and feasibility study costs. Aerojet does not expect the study to be completed until 1996.

## DOD's Reimbursement of Cleanup Costs

As of November 1991, DOD had reimbursed Aerojet about $36 million for cleanup related expenses. This includes about $24 million paid in 1989 to settle a disputed 1986 claim for reimbursement, about $5 million in interest, and another $7 million reimbursed as a subcontractor on DOD contracts with Martin Marietta. Aerojet also received another $3 million from other federal agencies.

Aerojet has submitted a claim for cleanup costs incurred after June 1989 to implement the partial consent decree. DOD and Aerojet are currently litigating the claim.

As of November 1991, Aerojet had received $7 million in reimbursements as a subcontractor on DOD contracts with Martin Marietta Corporation. Martin Marietta approved the payment through its DOD Approved Purchasing System.

The government payments to Aerojet have been reduced about $6.5 million by recoveries from Aerojet's insurers. The settlement agreement requires Aerojet to set aside for DOD half of any insurance recoveries and a quarter of any interest on the insurance recoveries for costs incurred through June 1989. As of July 1992, Aerojet had received about $11 million from its insurers for certain legal costs and another $5 million in interest.

## DOD Determinations of Compliance With Laws and Regulations

To determine the allowability of Aerojet's cleanup costs, the contracting officer used general cost allowability criteria contained in FAR. Under these criteria, a cost is allowable if it is allocable, reasonable, and complies with contract terms and federal procurement regulations. The contracting officer interpreted the reasonableness standard as requiring compliance with then-existing environmental, laws and regulations. The contracting officer investigated Aerojet's compliance with federal, state, and local environmental laws and regulations, and concluded, in his final decision denying Aerojet's claim, that Aerojet had not complied with state hazardous waste discharge permits. For example, one permit issued in 1952 specifically prohibited discharges of hazardous materials, including trichloroethylene, at the Aerojet facility in a manner that would result in contamination of groundwater or the American River.

After the contamination was discovered, the State Water Resources Control Board held a hearing on the disposal practices at Aerojet and concluded that the company had violated discharge permits, resulting in the groundwater contamination.

When the contracting officer denied Aerojet's claim, Aerojet appealed the decision to the Armed Services Board of Contract Appeals. In support of its claim, company officials stated that the costs were ordinary and necessary business expenses, and that it did not violate the state's discharge permit because its disposal practices were in compliance with general government and industry practices, were known to and approved by the state, and were not prohibited by the permit. Company officials also stated that Aerojet did not know, at the time, that groundwater contamination would result from its disposal practices.

DOD settled the appeal and paid about half of Aerojet's cleanup costs through June 1989. The Air Force trial attorney representing the federal government outlined several issues that went well beyond a simple determination of Aerojet's compliance that were also relevant to the case and posed substantial litigation risk. These issues included whether

- state discharge permits were specific enough to be considered strong evidence of Aerojet's negligence (they did not require Aerojet to monitor discharges or test the groundwater for possible contamination, and did not specifically prohibit discharge of hazardous wastes to the ground);
- some DOD contracts required the use of chemicals that have contributed to the contamination, and whether government-furnished equipment used in de-greasing operations and materials such as propellants have contributed to contamination;
- indemnification clauses in contracts between DOD and Aerojet from the 1950s to 1979 can be interpreted to include the groundwater contamination that resulted from performance of government contracts; and
- the Navy's leasing of approximately 3,500 acres and owning about 300 buildings on the site where contamination allegedly took place contributed to the contamination.

The Air Force trial attorney stated that the settlement was in the government's best interest because it settled Aerojet's claim for reimbursement of cleanup costs incurred through June 1989, and minimized the chance that the government will have to participate in the cleanup under Superfund as a potentially responsible party.

The EPA and state focus on obtaining Aerojet's agreement to take responsibility for the cleanup, rather than identifying potential wrongdoing, did not assist DOD's determination of allowability. EPA did not investigate Aerojet's compliance with laws and environmental regulations.

In 1979, the California Attorney General filed suit against Aerojet for violation of environmental laws, but subsequently agreed to not pursue the suit if the company agreed to implement the partial consent decree. The consent decree stated that none of Aerojet's payments under the decree were fines or penalties. Aerojet did pay monetary claims to the state for environmental damage.

## Insurance Recoveries

The contracting officer required Aerojet to seek reimbursement from its insurers before submitting a claim to DOD. The contracting officer believed that FAR required Aerojet to pursue insurance recoveries before it could seek reimbursement from the government. Aerojet disagreed with the contracting officer's interpretation, believing that DOD should have paid its claim, subject to a refund for insurance recoveries.

Aerojet submitted claims for insurance reimbursement soon after the contamination was discovered. Because the insurance companies would not acknowledge its claim, Aerojet sued its insurers in San Mateo County Superior Court in 1986. An important issue decided in the insurance action related to whether Aerojet's costs were damages that are covered under its general liability policies. According to an Aerojet official, in 1988, the trial court decided that Aerojet's costs to defend itself are covered, but actual cleanup costs are not. However, Aerojet was successful in getting the decision that cleanup costs are not covered overturned by a state appellate court. Subsequently, the State Supreme Court upheld this decision in a similar case involving FMC Corporation and its general liability insurers.

Aerojet officials stated that the company then continued its suit to obtain reimbursement of its past and future cleanup costs. During the trial, Aerojet argued that it did not knowingly contaminate the soil and groundwater, while the insurance companies argued that Aerojet expected or intended for pollution to occur as a result of its disposal practices. Aerojet lost the lawsuit in January 1992, because the jury found that Aerojet should have expected that its disposal practices would contaminate the site. Aerojet has appealed the court's decision because it believes that the trial judge in this case did not follow California law in applying a negligence standard to Aerojet's conduct and did not allow Aerojet to present evidence that it was following standard disposal practices of the time.

Even though Aerojet has not recovered any cleanup costs from its insurers, it has obtained reimbursements of about $11 million for legal defense of suits by property owners adjacent to the Aerojet site, and governmental suits brought against Aerojet regarding the environmental contamination. The reimbursements also include $5 million in interest payments.

## Relationship of DOD Contracts to the Contamination

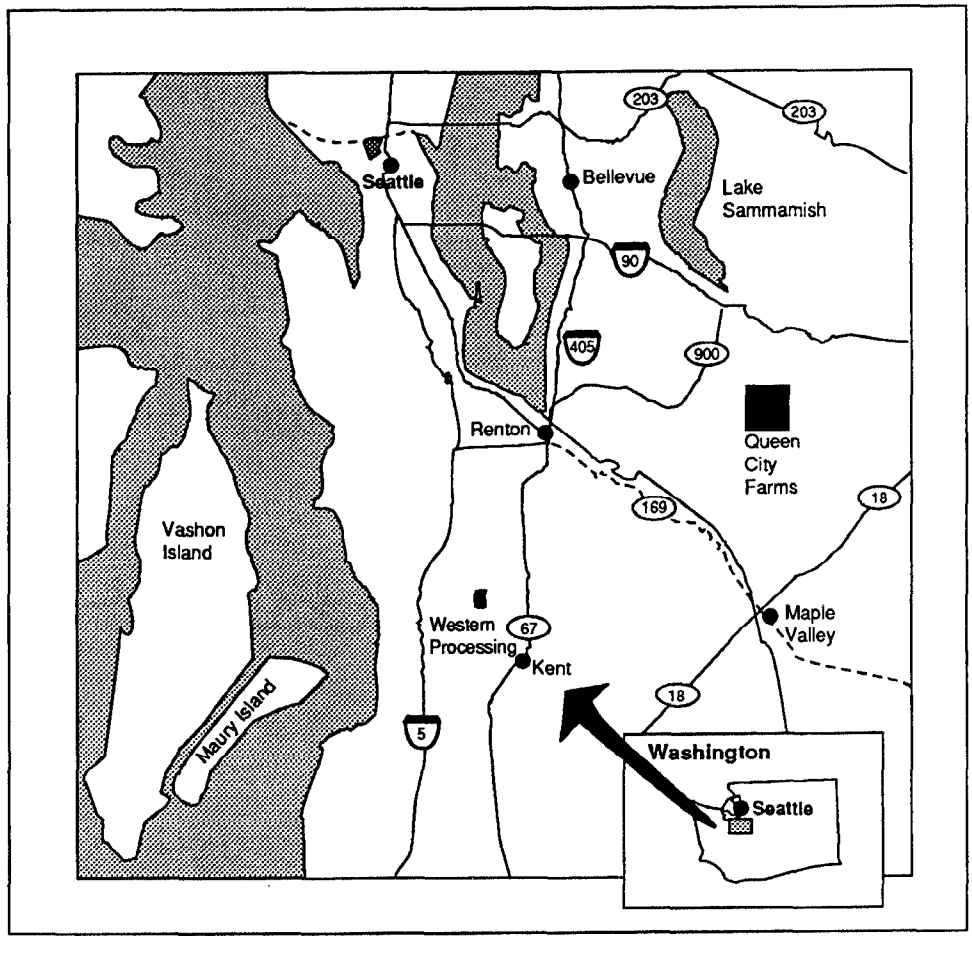
Air Force documents indicate that the contamination occurred while Aerojet worked on government contracts. Aerojet's initial claim indicates use of trichloroethylene pursuant to a military standard established in

1950. According to the Defense Plant Representative, DOD has accounted for over 80 percent of the business generated by Aerojet's Sacramento facility since it first opened in the 1950s. During 1988-91, DOD work comprised 84 percent of Aerojet's total sales of $1.7 billion, and the National Aeronautics and Space Administration accounted for another 9 percent.

# Seattle Waste Disposal Sites Used by the Boeing Company

The Boeing Company was the 18th largest DOD prime contractor in fiscal year 1991, with about $1.2 billion in contracts awarded. The company's headquarters and major operations are in the Seattle, Washington area, with other large facilities in Wichita, Kansas; Philadelphia, Pennsylvania; and Huntsville, Alabama. Figure II.1 shows two licensed hazardous waste disposal sites located near Seattle that received hazardous wastes from Boeing and others.

**Figure II.1: Location of Waste Disposal Sites**




## Background

From 1954 to 1977, Boeing used two commercial sites south of Seattle to dispose of hazardous wastes—Queen City Farms from 1954 to 1968 and Western Processing from 1964 to 1977. Western Processing covers about

13 acres in the Green River Valley, and Queen City Farms includes about 320 acres in a rural hilly area. Both sites were privately owned and operated and were licensed as waste facilities. They received wastes from many different businesses and government agencies.

In the early 1980s, EPA investigated each site and found industrial wastes on the surface, as well as soil and groundwater contamination. Many of the wastes found at each site—such as trichloroethylene, phenol, cadmium, and polychlorinated biphenyls (PCBs)—were on the Superfund list of hazardous substances. Pollution at the two sites was so extensive that EPA placed them on its National Priorities List.

EPA identified 44 potentially responsible parties for Queen City Farms and 363 for Western Processing. Responsible parties included owners, transport companies, and numerous organizations whose wastes were deposited at the sites. Boeing officials said the company was the largest contributor of wastes at each site and assumed leadership to maximize participation of other responsible parties and to negotiate cost-effective cleanups.

## Cleanup Efforts

### Western Processing

EPA first inspected the Western Processing site in 1981 to identify potential contamination. After EPA closed the site and removed some of the most hazardous surface materials to stabilize the site in 1983, cleanup activities occurred in two phases beginning in 1984. The phase I partial consent decree required surface cleanup, including removing structures, stored wastes, and some surface soil. Phase II subsurface treatment involved a pump and treat system to wash soils and extract and treat the groundwater. Construction of treatment equipment was completed and treatment began in 1988. Treatment is expected to continue through the mid- to late 1990s with site monitoring through at least 2025.

### Queen City Farms

EPA first inspected Queen City Farms in 1980, requiring the owners to further investigate the contamination. In 1985, EPA, Boeing, and Queen City Farms, Inc., signed a consent order to implement an initial remedial measure to drain ponds, remove soils, and construct a groundwater diversion system and monitoring wells.

Because subsequent monitoring showed hazardous substances that could migrate off site, in 1988 EPA ordered the responsible parties to develop additional remedial measures, including soil, surface water, and groundwater treatments. According to EPA's site manager, EPA expects to issue its decision on the preferred treatment by December 1992. Proposed actions will take 2-3 years to implement; monitoring will take place for 30 years.

# Past and Future Cleanup Costs

## Western Processing

Table II.1 details the cleanup costs for the Western Processing site of $85.5 million, as of midyear 1992. Based on Boeing documents, we estimate future cleanup costs at an additional $31.4 million, including about $7 million for monitoring and maintenance after the cleanup is done.

**Table II.1: Cleanup Costs at Western Processing (1984 Through Midyear 1992)**

Dollars in thousands

| Type of expense | Amount |
|---|---|
| **Direct cleanup costs - on-site activities** | |
| Consent decree cleanup contractors | $57,443 |
| Additional cleanup activities | 4,119 |
| **Subtotal** | **61,562** |
| **Overhead cleanup costs - administration & support** | |
| Decree management, oversight, audit | 4,649 |
| Legal consultants | 11,922 |
| Settlements | 3,726 |
| Administrative costs (staff, office) | 3,658 |
| **Subtotal overhead costs** | **23,955** |
| | **$85,517** |

## Queen City Farms

Cleanup costs for Queen City Farms totaled $15.8 million, as of midyear 1992. This included $13.5 million in direct cleanup costs and $2.3 million in overhead costs for monitoring, oversight, and legal services. According to EPA's site manager, future costs are estimated at $46.5 million to further

contain the buried wastes, vent the capped area, treat groundwater, and remove additional metal debris and contaminated soil.

## DOD Reimbursements

Boeing allocates overhead, which includes environmental cleanup costs, to its business segments and subsequently to commercial and government contracts. Local DCAA officials said determining the actual amount of the cleanup costs reimbursed by the government would require significant effort because of (1) the way cleanup costs flow through Boeing's accounting system and (2) the large number of contracts and contract types.

Of the $101.3 million spent at the two sites as of midyear 1992, the federal government has reimbursed the Boeing Company between $11 million and $13 million. Boeing has estimated federal payments at $11.1 million through June 1992 while DCAA has estimated those payments at $13 million for the 1984 through August 1992 period. According to DCAA officials, the difference in the estimates appears to be due primarily to assumptions about the mix of contract types. Boeing officials said that most of this amount was paid by DOD because it has the largest share of Boeing's government business. A portion of the reimbursement was for profit since, according to Boeing officials, all of Boeing's current DOD contracts include cleanup costs in the base for profit computation.

The relatively small federal share of total cleanup costs occurs because the government's share is based on its share of Boeing's operations and determined after Boeing receives reimbursements from other sources.

## DOD Determinations of Allowability

According to DOD's Corporate Administrative Contracting Officer, in 1985, the previous contracting officer for Boeing initially questioned all Boeing's cleanup costs at the two sites. He said the prior officer was concerned that Boeing's costs may (1) have been fines assessed by EPA, and (2) be contingent in nature due to the uncertainty of the amount and whether insurance coverage applied. Because this was a new type of cost not encountered before, the current contracting officer said there was considerable uncertainty over how to deal with it. However, he said that in 1987, the prior contracting officer had decided to recognize Boeing's cleanup costs for forward pricing and interim billing purposes. The former officer based his decision on three points:

- Boeing did not violate federal, state, or local pollution laws when it used the sites.
- It appeared that Boeing's general liability insurance would not cover the cleanup costs.
- Boeing incurred the cleanup costs as a result of recent, more stringent environmental laws.

Based on our review of records and discussions with DOD and Boeing officials, it appears that to determine if Boeing violated then-existing laws and regulations, the contracting officer relied on information developed during extensive discussions with Boeing and information gathered by DCAA. This included (1) a statement from Boeing that it had not violated then-existing laws and regulations; (2) a report of the special master appointed by the court to oversee the project, which found no evidence of wrongdoing by Boeing or other site users; and (3) the 1986 consent decree for Western Processing, which stated that the costs were not the results of fines or penalties. The DCAA official involved in the case said that, at the time, EPA's responsibility for determining wrongdoing by site users was unclear. According to EPA officials, EPA activities at Western Processing and Queen City Farms did not include investigations for wrongdoing.

Information developed in 1990 may cause the contracting officer to reconsider the allowability of a portion of the cleanup costs, but he has not yet raised the issue with Boeing. When Boeing sued its insurance companies in federal district court, evidence was presented showing that Boeing "expected or intended" pollution to occur at the Western Processing site in 1971, but continued to use the site until 1977. As a result, according to Boeing officials, Boeing did not have insurance coverage for a portion of cleanup costs at Western Processing.

DCAA sent Boeing a letter questioning whether Boeing's actions were prudent, since they put Boeing's insurance coverage at risk. Boeing disagreed with this position, stating that (1) it followed accepted practices and (2) several other businesses and federal agencies also used the site during the period when pollution was occurring.

Also, the DCAA local office requested guidance regarding Boeing's negotiation of insurance settlements. Interim DCAA headquarters guidance stated that the unreimbursed costs are allowable if (1) Boeing acted reasonably in settling the costs, (2) the costs would have been allowable even if not covered by the policy, and (3) Boeing credits the government for insurance payments received. DCAA and the contracting officer have

concluded that the Queen City Farm costs not reimbursed by insurance are acceptable for interim billings pending final determination.

DCAA and the contracting officer are also exploring allowability of a self-insurance program. Because new policies that would include environmental cleanup costs are virtually nonexistent, DCAA believes that Boeing may plan to establish a self-insurance program.

## Relation of DOD's Contracts to the Contamination

Although DOD and Boeing agree that hazardous wastes were a by-product of the manufacturing processes for government contracts, no records showed specific quantities of the wastes. Boeing produced major systems for the government during 1955-77 when Boeing was sending wastes to Western Processing and Queen City Farms. For example, Boeing made airplanes for each military service, missiles for the Air Force, lunar orbiters and modular spacecraft for the National Aeronautics and Space Administration, and a rapid transit system for the Department of Transportation. Boeing also produced hazardous waste from commercial operations, but according to Boeing officials, no requirement existed at the time for a system to account for types and quantities of wastes generated.

In 1988, DOD and Boeing agreed to apportion the allowable costs in proportion to the square footage dedicated to government business. If Boeing's proportion of government business changes, then the government would pay a new proportion of future costs.

# Lockheed Manufacturing Site, Burbank, California

The Lockheed Corporation, headquartered in Calabasas, California, received $2.7 billion in prime DOD contracts in 1991, making it the ninth largest defense contractor that year. Lockheed is involved in designing and producing missiles, satellites, and military aircraft. The Lockheed case study focuses on the company's Burbank, California, facility. This company-owned facility has been used to build such military aircraft as the U-2 high-altitude reconnaissance aircraft and the F-117A stealth fighter. Lockheed is in the process of closing the facility, which unlike the other sites is within a large metropolitan area.

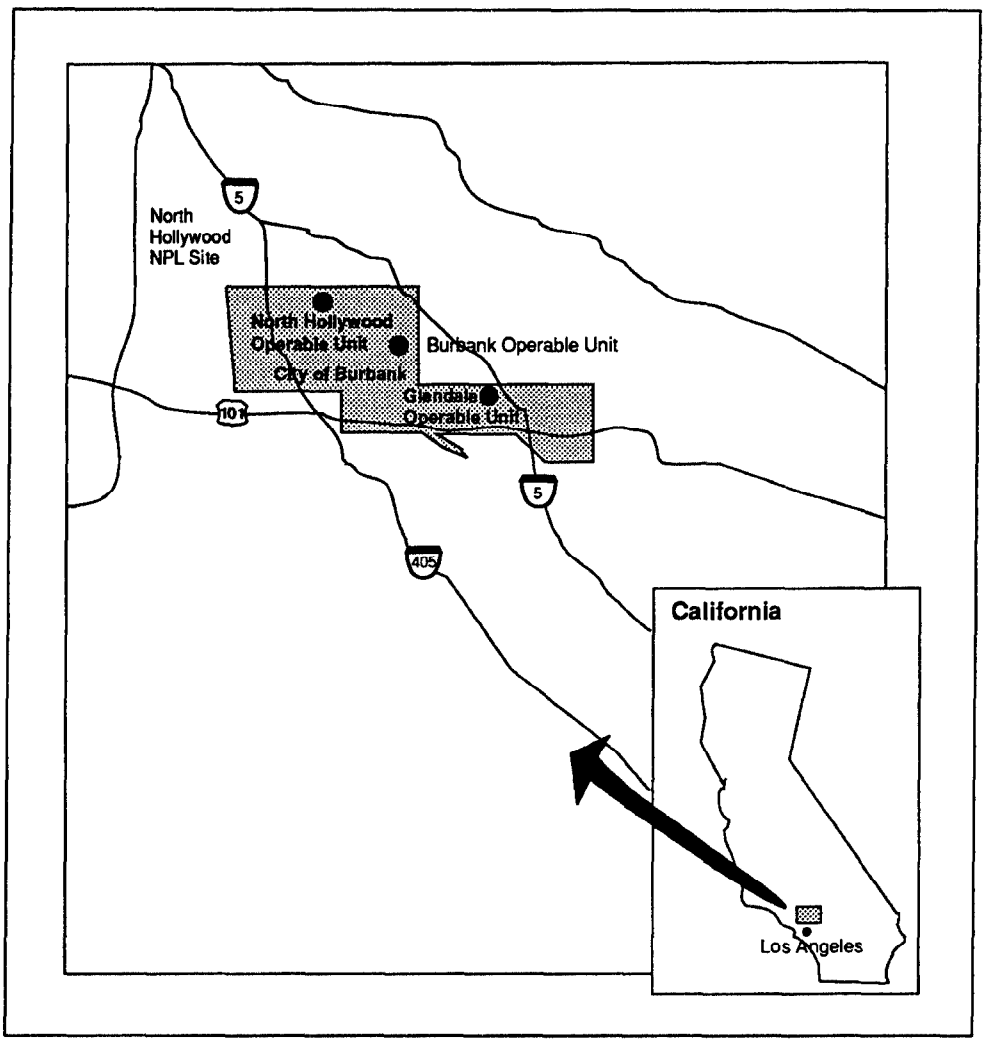
## Background

In late 1980, groundwater contamination was discovered in water supply wells in Burbank, California. The wells contained volatile organic compounds, primarily trichloroethylene and tetrachloroethylene. The concentrations of up to 1,800 and 590 parts per billion, respectively, far exceeded the federal and state safe drinking water standard of 5 parts per billion. The city shut down its wells and obtained water from another water district.

Studies identified numerous sources of contamination, including several on Lockheed's 425-acre aircraft manufacturing site in Burbank. California Regional Water Quality Control Board officials attributed the contamination to industrial operations at Lockheed's site, including machinery degreasing, paint stripping, solvent distilling, and conditions such as leaking pipelines, storage tanks, and barrels.

The contamination of Burbank's wells is part of overall pollution in the area. In June 1986, EPA placed the North Hollywood Area of Los Angeles, California, on its Superfund National Priorities List of the nation's highest priority sites. Figure III.1 shows the location of the Burbank site.

Figure III.1: Location of the Lockheed Corporation Facility




## Cleanup Efforts

In 1984, Lockheed began site investigation, including drilling monitoring wells to find the sources of groundwater contamination and the extent of its migration off site. Lockheed also constructed a groundwater treatment facility to help prevent the further off-site migration of the contamination.

A feasibility study identified cleanup options in a 1989 EPA Record of Decision. EPA notified 34 potentially responsible parties, including Lockheed, of the cleanup method selected and their potential liability. In March 1991, Lockheed and two other potentially responsible parties—the city of Burbank and Weber Aircraft—accepted responsibility for the

groundwater cleanup. They entered into a consent decree that covered the cleanup and financial obligations of each party.

Under the decree, Lockheed is responsible to design and construct a groundwater treatment plant. Lockheed expects to have the plant partially operational by 1994. Lockheed projects that the plant will reach full operating capacity of 12,000 gallons of water per minute in 1998.

The city of Burbank will design and construct facilities to treat water and convey it to a blending facility. Weber Aircraft will contribute funds toward the design and construction of the groundwater treatment system.

According to a Lockheed official, Lockheed will have total responsibility to clean up soil contamination on site. The Regional Board, under its cooperative agreement with EPA, is monitoring soil contamination cleanup at the Burbank site.

## Past and Future Cleanup Costs

Lockheed has spent about $9 million, as of May 1992, on preliminary cleanup. The activities included installing monitoring wells, conducting tests and analyses, drilling an extraction well, and constructing a groundwater treatment system to prevent the spread of the contamination.

Final cleanup of Lockheed's Burbank site will be expensive and lengthy. Lockheed estimates that the cost to clean up soil and groundwater contamination will be about $219 million and that its share will be around $194 million. The city of Burbank and Weber Aircraft have agreed to contribute $3.3 million and $3.75 million, respectively. The cleanup is expected to be finished by 2000.

## DOD Reimbursements

As of July 1992, DOD had not reimbursed cleanup costs for the Burbank site. Lockheed officials said they will submit the first claim to DOD near the end of 1992. This claim will include about $6 million of Lockheed's estimated cleanup costs through 1991 of about $9 million.

Lockheed's cleanup costs could be reduced by other potentially responsible parties. EPA is negotiating with six other parties to determine their cleanup liabilities.

## DOD Determinations of Allowability

The contracting officer at Lockheed has agreed on a Memorandum of Understanding that establishes the method to allocate cleanup costs to DOD. DOD's share of cleanup costs will be charged to overhead as a general and administrative expense. The memorandum in effect has agreed to allow Lockheed to submit reimbursement claims, but has reserved judgment on the allowability of the claim.

## Compliance With Laws

The DOD contracting officer approved the agreement with Lockheed based on EPA's consent decree, which does not discuss wrongdoing, and Lockheed's statement that it complied with then-existing environmental laws and regulations. However, he did not independently investigate Lockheed's compliance with those laws and regulations.

## Allocability of Lockheed's Cleanup Costs

In April 1990, the Air Force Plant Representative Officer raised concerns over the allocability of Lockheed's cleanup costs in the wake of Lockheed's decision to move the major division working at the Burbank site to Georgia. He expressed concern that increased indirect costs would be allocated to products manufactured by the remaining Lockheed Aeronautical Systems Company.

Lockheed proposed a Memorandum of Understanding that would allocate Burbank cleanup costs to all Lockheed business segments, regardless of their contribution to the contamination at the site. In October 1990, the contracting officer for Lockheed agreed to the memorandum after receiving guidance from the Defense Counsel at the Defense Contract Management Command. The Defense Counsel stated that the memorandum is consistent with applicable regulations and would favor DOD because DOD's share of cleanup costs would be lower by spreading the costs across the entire Lockheed company rather than just the segments located on the Burbank site.

Lockheed's customer base is now about 70 percent government and 30 percent commercial. In comparison, over 90 percent of Lockheed's business at its Burbank site has been with DOD. From 1982 to 1991, out of $14.2 billion total sales at Burbank, $12.9 billion was to DOD.

DCAA does not agree with the allocation methodology contained in the Memorandum of Understanding. DCAA believes that allocating the costs across all segments of the company is inconsistent with federal cost accounting standards. In an August 1991 memorandum, DCAA stated that

the segment responsible for the contamination and/or those segments still operating at the site should absorb the costs of cleanup, because that would more fairly allocate costs.

## Insurance Recoveries

In contrast to the other cases, the contracting officer is not requiring Lockheed to pursue reimbursement from its insurers prior to submitting a claim for reimbursement to DOD. He stated that he intends to reduce Lockheed's claim for anticipated insurance recoveries. (Under section 31.201-5 of FAR, contractors must reduce claims for government reimbursement by anticipated insurance recoveries.)

Lockheed believes that its costs are covered damages and recently retained a law firm specializing in insurance claims to assist it in obtaining reimbursement. Lockheed met with its insurers in September 1992 to hold preliminary discussions on settlement of the issue.

As of July 1992, DOD and Lockheed have not agreed on an insurance recovery rate for fiscal years 1991 through 1996 as included in DCAA's audit of Lockheed's corporate management expense forecast. Lockheed estimates it will not receive any insurance recoveries through fiscal year 1992, but will recover 10 percent of its costs in 1993 through 1996. In January 1992, DCAA questioned this estimate, stating that the recovery rate will be 75 percent. The contracting officer at Lockheed stated that he will make the final decision regarding the recovery rate that will be used.

## Relation of DOD Contracts to the Contamination

The majority of the work done at Lockheed's Burbank facility has been for DOD. According to Lockheed officials, the U.S. government share of sales at the Burbank facility has generally been about 90 percent, with virtually all of that being DOD. In addition, one of the major sources of the contamination at the site is a production plant that was a government-owned, contractor-operated facility between 1946 and 1973.

Lockheed officials said that the contamination in Burbank occurred over a long period of time, possibly dating back to pre-World War II. EPA and state environmental control agencies concur with Lockheed's statement.

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