
Fifth Key Issue: Is Superfund's Heavy Dependence On Contracting Cost Effective?

In 1987, EPA Administrator-designate William K Reilly (then president of the Conservation Foundation) said:

... the Superfund program may well result in many billions of dollars being spent with little net reduction in risk to public health and the environment?

Most of the billions are being spent for contractors, and there is growing awareness that the Superfund program's policy of heavy dependence on contractors has negative impact. The conference committee for EPA's fiscal year 1989 appropriations said, "The program's heavy reliance on contractors creates a substantial risk of resources being wasted."⁵⁷ As that statement implies, the real question is not whether money is being saved but whether contracting on such a scale, with the existing degree of EPA management, is a cost-effective way of protecting human health and the environment.

A GAO report on Superfund concluded:

EPA has not sufficiently monitored, controlled, and challenged contractor expenditures and professional hour usage for remedial studies. By not consistently and fully challenging questionable contractor costs, EPA could be conveying a message to contractors that it is willing to accept all costs regardless of the level of perfor-

mance provided, thereby lessening the contractors' incentives to control costs. As a result, EPA may be paying more than needed for remedial studies.⁵⁸

EPA's IG, in auditing fiscal 1987 Superfund contract costs, found that about 30 percent of contractor costs were questionable because they might be unallowable under provisions of applicable laws, regulations, or policies or were unacceptable without additional information or evaluations and approvals by responsible EPA officials.⁵⁹ The IG also noted, "We have repeatedly found that the Agency's management of Superfund needed improvement." Moreover, the IG has said that it does not have enough resources to carry out the level of auditing and investigation it deems necessary for Superfund.

A recent study on reducing cleanup costs through value engineering cited three examples where original contractor RIFSSs performed on Superfund sites did not adequately address certain aspects of the selected remedies. When subsequent reviews and studies were performed at a cost of about \$500,000, cleanup cost savings of about \$5 million resulted.⁶⁰

⁵⁶ William K. Reilly, "State of the Environment: A View Toward the 90s," September 1987.

⁵⁷ U.S. Congress, Conference Report 100-817, FY89 Appropriations for HUD and Independent Agencies, Aug. 3, 1988, p. 19.

⁵⁸ U.S. Congress, General Accounting Office, Superfund Contracts - EPA Needs to Control Contractor Costs, RCED-88-182 (Gaithersburg, MD: General Accounting Office, July 1988).

⁵⁹ U.S. Environmental Protection Agency, Office of Inspector General, Annual Superfund Report to the Congress for Fiscal 1987, September 1988.

⁶⁰ P. F. O'Hara, et al., "Cost Effective Remediation Through Value Engineering," Superfund '88, conference proceedings (Silver Spring, MD: Hazardous Materials Control Research Institute, November 1988).

A study for the House of Representatives' Appropriations Committee said:

The Region IX official also stated that EPA gives its contractors pre-negotiated, open-ended contracts with the result that the contractors, with EPA approval, spend too much to study issues... contractors could cut months off study schedules if they did not spend so much time on 'simple things' and did not study everything 'to death.'⁶¹

Cost Effectiveness of Contracting

In theory the competition of the marketplace means that the low-cost operator ultimately wins. Whether the same result occurs when the public sector contracts with the private sector instead of doing the work itself is not clear. One reason for the uncertainty is that cost comparability is difficult given the different accounting methods of the two sectors.

However, according to the General Accounting Office:

... in those instances where contractor costs are lower, this is generally because the contractor employs fewer persons and pays them less.⁶²

But this does not appear to be the case for Superfund contracting.

The OMB rules for contracting out services require that costs of doing so be compared with the costs of providing the service inhouse. Under the Superfund program no comparative studies have been done. The **assumption** has been made that contracting saves money and provides for quality work.

That assumption overlooks a number of factors present within and around the Superfund program. For instance, when the Su-

perfund program began there was a sudden high demand for--and low supply of--technical expertise. Congressional and EPA beliefs that a major contractor workforce was available for the rapidly expanding Superfund program were incorrect. An EPA official, explaining why removal contracts had not proved to be cost effective, stated in 1987:

The contractors we have used have struggled very hard to do new tasks. They had a lot of unknowns. They took a lot of corporate risks. This was not a well-defined piece of work.⁶³

As has been discovered over time, Superfund cleanups often require special expertise that was not and still is not readily available in the private sector. For instance, large numbers of experienced civil engineers, geologists, and hydrogeologists have no expertise or experience with toxic chemicals. EPA has found it necessary to provide training sessions for contractor staff (e.g., on cleanup technologies). To a large extent, the billions of dollars rapidly spent on Superfund have provided an opportunity for many contractors to start new businesses and to learn the new business of toxic waste cleanup. To some extent this was inevitable and has precedents in other fields. But the point here is that the rapid increase in spending on contractors was based on incorrect assumptions and that the efficiency of the program has suffered as a result.

With the reauthorization of the program in 1986 for annual budgets that equal the total authorized for the first five years and a congressional mandate to increase the pace of the program, another surge in demand was created. In fact, the problem is likely to get worse, if spending on cleanups--directly by

⁶¹ Surveys and Investigations Staff, op. cit.

⁶² U.S. Congress, Congressional Research Service, "Contracting Out", op. cit., p. viii.

⁶³ U.S. Congress, Superfund Implementation, S. Hrg. 100-261, op. cit., p. 156.

government and by private parties--keeps escalating. The lagging supply of expertise means that the program continues to operate with minimal price/cost competition.

During the reauthorization process, the administration claimed that it could not spend as much money as Congress was willing to provide. One experienced lawyer, said at the time, "EPA will have more money than it can spend effectively."⁶⁴ Now, several years into the reauthorized program, it is clear that the money will last five years. Indeed, many contractors spend all of their authorized hours or funds long before anticipated. Either poor estimates were made by EPA and contractors, or more hours are being spent carrying out a task because of problems in program management or contractor performance, or sites are more complex than originally thought. All of these factors seem to be relevant. Eventually, especially given the long-term nature of the program, the market will adjust, supply--particularly of experienced workers--will increase to meet the demand and unit costs may decrease. But, the government might get more control on costs sooner if the government itself does more of the work, if it could practice more stringent supervision of contractors, and if contractor spending is temporarily reduced.

Several other aspects of the Superfund program and contracting mentioned earlier also bear on the question of cost effectiveness. Statutory and public pressures to show high-paced performance, coupled with high EPA staff turnover and inexperienced EPA staff, reduce EPA's ability to exercise effective cost controls. The system of having EPA staff manage prime contractors who manage

subcontractors creates several levels of overhead that are all ultimately paid for by the public, either directly through the trust fund or indirectly through PRPs. Whenever lack of proper management results in poor work that has to be repeated, the cost of doing that work doubles or more than doubles. Because of the fragmented nature of the workforce, many contractors doing the same kind of work needlessly develop the same databases and management systems. EPA has not made very wide use of generally useful data and software that the government has paid for in specific contracts.

Government v. Private Sector Costs

OTA has not attempted to examine in detail the commonly held belief that private sector cleanup efforts are less costly than those contracted out by EPA. But this is a common assertion by many PRPs and one PRP has told OTA in writing, "I agree that EPA spends up to five times more than a private party for the same cleanup." It is also widely said that contractors have a higher profit margin when working for the private sector than for the government (although there is no dearth of contractors bidding for government work). In fact, some contractors have told OTA that their desire to do quality work requires higher prices but that the government will not pay the higher prices. Therefore, some firms specialize in private sector work.

Both apparently contradictory beliefs may be correct. While the unit contractor costs are probably higher for private sector work, the job is probably done with less work in the private sector. In other words, lower profit margins in the public sector are probably

⁶⁴ "Producers wary of new Superfund provisions." Chemical & Engineering News, NOV. 3, 1986, p. 26.

offset by higher volumes of work. Many contractors have experienced very high growth rates and increased profits over the past several years because of government Superfund business.⁶⁵ This happened at a time when other engineering and construction markets shrunk. The profit margins of Superfund contractors are comparable to similar kinds of firms; for instance, construction project management firms typically have margins equal to or less than firms holding ARCS contracts.

Redundant contractor work, poorly defined work by the government, greater use of less experienced people, poorly supervised work that leads to late recognition of problems, greater concerns about being criticized which lead to unnecessary, *defensive* work, and changing agency policies and personnel all probably contribute to high government cleanup costs. From looking at actual costs and speaking to contractors and PRPs, we find it plausible that the government may spend from 100 to 500 percent more than a **private client would spend to accomplish essentially the same site study or cleanup.**

Procurement

It is not only the contracting system that generates inefficiencies but how contacts are obtained can increase costs to the government. One problem is that the bid or negotiated cost of a contract may not accurately describe the ultimate cost of providing services. *Buying in* is a contracting phenomenon that Congress has criticized the Pentagon for accepting. In buying in a contractor bids or negotiates low and later rationalizes a need to increase funding in order to complete the tasks required. It

takes an internal EPA staff with considerable expertise to know when a contractor has bought in. When this happens in Superfund, EPA has to confront the problem of sunk costs. EPA has to decide whether the tasks can best be completed at the higher cost suggested by a contractor or by terminating the contract and switching to a new contractor, who has to spend time reviewing the accomplishments to date (and possibly redoing some work) before completing the tasks. Or, EPA must decide not to reimburse certain contractor costs, such as for repeating faulty work. It appears that, often, EPA pays more money.

Another practice is to bid without having the people on staff to complete the project. After the contract is signed the contractor spends time and effort to acquire technical staff. Or, the people committed to originally, who are usually outstanding, are switched to another project. Substituting less experienced people can result in lower productivities and higher costs.

Another procurement problem which undermines competitiveness is *wiring* a contract; that is, when a firm is somehow assured of winning a contract. A lack of competitive bids for a contract can indicate widespread awareness by contractor firms that this is happening. The result is an unnecessarily high contract cost.

All these problems seem to have occurred in the Superfund program and all of them are not solely the responsibility of contractors, because the *government* should prevent such problems from occurring. These problems merit IG examination.

From a procurement perspective, the data in table 3 on recently awarded TES contracts

⁶⁵See, for example, the brochure announcing the "Hazardous Waste Business 89" conference in March 1989 which opens with "Win your share of the billion in profits ahead." The brochure goes on to give examples of success stories: companies whose revenues and profits have increased dramatically in recent years. Of the 24 sessions at the conference presented by the **industry's leaders**, not one deals with managing and assuring environmental performance or quality of company products or **services**. Three sessions focus on personnel issues, such as recruitment, training, retention, motivation, and preventing employees from becoming arch rivals.

might merit examination. The spread in contract amounts for what is supposed to be the same amount and type of work looks high. The difference between the highest and lowest amounts awarded is \$29 million (i.e., \$136 million versus \$107 million). Although there might be regional differences in cost structures, the differences between the two winning contracts in each EPA region seems unusually high.⁶⁶ Five out of the six contracts were less than \$131 million, the amount targeted by EPA, and apparently based on the experience with the previous TES contracts.

For three of four policy support Superfund contracts (see box B), hourly costs are in the \$40 to \$50 range which is consistent with the hourly costs in the six TES contracts. Both activities involve technical analysis to produce reports, rather than operational tasks or field activities as in REM and ARCS contracts. But the fourth policy contract (with CH2M Hill) has an hourly cost of \$73, which seems high.

Administrative Complexity

With its bureaucratic procedures, contracting adds inflexibility to the system and inflexibility adds to cost and time. Compare the following with the alternative of assigning a task to internal staff. To initiate a contractor assignment, the EPA RPM Primer advises:

After completing the Work Assignment Package, you forward it to the RPO [Regional Project Officer] for approval. The RPO transmits the completed package to the Contracting Officer, with a copy for the Project Officer. The Contracting Officer then issues a work assignment to

the contractor, who must prepare a Work Plan Memorandum for your approval within 10 days.⁶⁷

And, what happens when anew piece of information on a site causes adjustment to the contractor's scope of work? How is that different from redirecting the work schedule of internal staff? The statement of work has to be amended, officially, in writing. For instance, in a hypothetical case where a site visit has turned up a previously unknown potential threat, the EPA's RPM Primer says:

In addition to drafting the Work Plan [for the RIFS], the contractor will also be working on the EE/CA [Engineering Evaluation and Cost Assessment] for the ERA [Expedited Response Action] and a CRP update. You amend the interim scope of work activities to include preparation of the EE/CA. This is done via approval of an interim amendment on the Work Assignment Form.⁶⁸

Dependent Bureaucracies

Instead of an *internal* bureaucracy, an encircling one with close ties to EPA's Superfund program has grown up within the private sector. This constituency exerts the same kinds of pressures that an internal bureaucracy would (such as desire for permanence and expansion) while being less subject to government control and public scrutiny.

Superfund conventions, conferences, and trade shows represent an expanding business too. Annually, the largest occurs in Washington, DC. EPA is the chief affiliate sponsor; EPA's contractors and staff dominate the technical meetings. Contractors receive funds to attend such meetings.

⁶⁶ For example, compare with the five largest ARCS contracts in Region 5, as shown in Table 4. The ARCS are much more complicated contracts than TES. But the spread for the ARCS is \$15 million on a base about twice as large as TES, while the spread in Region 1 for TES is \$12 million.

U.S. Environmental Protection Agency, "The RPM Primer," OSWER Directive 355.1-02, September 1987, p. 10.

⁶⁷a Ibid, p. 20.

There is virtually no representation or attendance by people from environmental, public interest, or community organizations, and attendance by technical people from PRPs is minimal. The atmosphere and program content is self-congratulatory rather than critical

self-appraisal and effective information transfer. Interfering with information transfer is the fact that the conference also serves as a job clearinghouse that exacerbates the government brain drain and the mobility of people among contractors.