Assault on Research Secrets at Pentagon

The unsuccessful attack has shaken a billion-dollar program that generates ideas for new U.S. weapons

The seed money for the next generation of U.S. weapons comes from a little-known but influential program for military research and development run by the Pentagon. Known as Independent Research and Development (IR & D), this billion-dollar-a-year fund lures many defense contractors across the country into pursuing their own state-of-the-art research in weapons technology and then passing along the best ideas to Washington. Or at least it did.

Last fall, lawyers from American Telephone and Telegraph (AT & T) almost succeeded at breaking into this war chest of innovative ideas. Though Ma Bell did not get the goods, the defense industry is still reeling. Several contractors who spoke with *Science* say that they are going to be more careful in the future about giving the Pentagon trade secrets. This would be no small development. During the past two decades, such high-technology items as spy satellites, laser weapons, precision-guided munitions, lightweight fighter aircraft, and cruise missiles have all been nurtured in their infancy through IR & D funding.

Although the potential threat to national security is clear, the cause of the mess is almost comic. AT & T, the nation's largest corporation, is fighting a 5-year-old suit brought by the Department of Justice. As part of pretrial discovery, AT & T's antitrust brigade has been combing the files of 34 government agencies, looking for evidence that would help refute the charge that AT & T has unlawfully dominated the telecommunications industry (*Science*, 16 February 1979). In the course of collecting these pretrial papers, AT & T lawyers stumbled upon, and then fought for access to, the IR & D files.

Protecting the files from future attacks would seem to be a logical step for the Pentagon, given contractors' fears. But rather than try for a legislative solution or argue the case in the courts, the Pentagon has quietly negotiated an out-of-court settlement with AT & T, and, on the whole, taken a business-as-usual attitude in the wake of the incident. The cause of this silence is clear.

"Congress has abdicated responsibility for $1 billion of the taxpayer's money," railed William Proxmire (D-Wis.) during a hearing on IR & D in 1975. "It is a ripoff . . . a gravy train of secrecy." For years Proxmire has tried and failed to make IR & D a line item in the government's budget, which would put the funds under closer congressional control. On one occasion he introduced an amendment to the Armed Services Act that would have cut Pentagon IR & D by 50 percent. In the face of these threats, the Pentagon has gone out of its way to avoid congressional ire. This also seems to be the case with the AT & T incident. But the low profile has problems. In lieu of other protection for their trade secrets, contractors are talking about ad hoc solutions that would reduce the flow of defense ideas to Washington. If talk becomes fact, the future of the U.S. defense program may be compromised.

To begin at the beginning, the Pentagon's IR & D programs pay defense contractors to undertake projects on their own initiative. Pentagon IR & D is the same as R & D done in the private sector with one big exception. Instead of recovering the cost of research in the price of a product, a defense contractor recovers it as overhead, as an additional item on a contract. The method is controversial because (i) it is not subject to congressional review, (ii) the size of the Pentagon's IR & D programs have grown considerably in the past decade, more than doubling to $1.24 billion, and (iii) there is no easy way to measure whether the benefits are worth the cost.

Contractors who perform IR & D include Boeing, Control Data, Fairchild, General Dynamics, General Electric, Grumman, GTE, Honeywell, Hughes, IBM, ITT, Martin Marietta, RCA, Sperry Rand, TRW, United Technologies, and Westinghouse. These and the 70 to 80 other contractors whose individual IR & D expenses exceed $2 million in a given year negotiate "advance agreements" to establish a ceiling for such costs during the upcoming year and to submit technical reports on their projects. These reports are the payoff for the Pentagon, which estimates that it would take ten times as much money to sponsor individual contracts that would result in the same state-of-the-art information. One result of IR & D is that the Pentagon has hundreds of file cabinets filled with descriptions of what these contractors hope to accomplish in the years ahead. Needless to say, the files are confidential.

Contractors who heard about the AT & T attempt at discovery feared they would lose trade secrets, and some requested the return of their IR & D files. The Departments of Justice and Defense went to court, saying release of the files to AT & T or return to the contractors would endanger national security. They asked for a protective order. But AT & T opposed the move, on the grounds that the IR & D material was extremely relevant to the antitrust issues under litigation and that access to the IR & D material would be limited to those individuals working on the case. At this point, the government was joined by the Aerospace Industries Association, the American Electronics Association, the Electronic Industries Association, and the National Security Industrial

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Association. These groups, also fearing loss of trade secrets, hired counsel and fought on the side of the government for an injunction. Said one lawyer at the time: "Even if AT & T is sincere about only using this material in the antitrust suit, most of us have some suspicions about the actual ability of these people to perform the kind of mental gymnastics called for here—putting something back out of your mind and pretending not to know it."

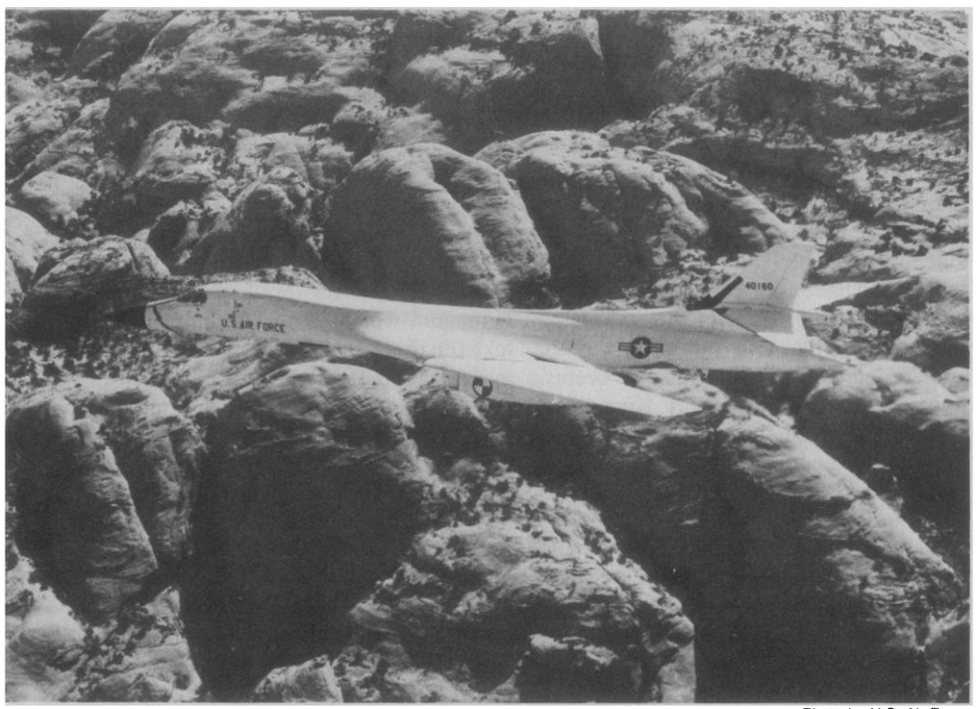

Photo by U.S. Air Force

The B-1 bomber, like much military hardware, was nurtured by IR & D funding.

Eventually, all parties entered into out-of-court negotiations that on 6 February resulted in a compromise. This entails the release of a minimal amount of information to AT & T, none of it proprietary. Included are anonymous sheets on each IR & D project giving the amount of the funding, professional man-years involved, and a code word that describes the area of research, such as "bombs."

Will apprehension over future attempts at discovery stifle the flow of IR & D? At first glance, this would seem to be unlikely. Through a complex series of technical evaluations, the Pentagon determines the quality of a contractor's IR & D. The better it is thought to be, the more a contractor is paid. In theory, a contractor who passes mediocre information to the Pentagon would therefore be penalized. "From the standpoint of pure economics," says Charles E. Deardorff, an IR & D specialist in the office of the Secretary of Defense, "I would say that as much as they might not like it, they really don't have a choice. Certainly they are upset, but they're in a situation where they're damned if they do and damned if they don't."

Closer inspection, however, reveals several potential caveats. First, contractors may in fact decide to take a cut in IR & D funds. "These guys are going to weigh proprietary interests a little more carefully against their marketing," said one DOD official. "Instead of a guy giving us 12 pages of description on something in which he's invested a lot of time and dollars, he might give us a 3-page summary."

The electronics industry, which is experiencing boom times in the commercial market and is not especially beholden to the government for financial support, is said to be especially upset. "There is nothing to keep an AT & T-type incident from happening again and succeeding," says Dan Murphy of the American Electronics Association in Palo Alto, California. "There are a number of our companies who are not going to submit IR & D materials this year and who are going to think very carefully before they do again."

A second consideration is that the effect a technical evaluation has on the size of an IR & D payment is anything but clear. "There is a great latitude in what you might say in a technical report and what you are compelled to say," according to one contractor. This point was emphasized in a 1975 General Accounting Office (GAO) study of the Pentagon's IR & D programs. It said that the technical evaluation was "basically subjective" and did not seem to have an effect on the negotiated IR & D ceilings. More important determinants, according to the GAO, were the prior year's IR & D payment to the contractor, and their past and projected sales to the Pentagon.

Another fact of life the Pentagon cannot get around is that many contractors reveal only certain parts of their research. Several industry executives told *Science* they know firms, especially those that do only minor business with the government relative to their total market, who in the future are going to be even more cagey. IBM was given as an example. When asked about this, Deardorff admitted the Pentagon has no idea of all the IBM research programs that might bear on national defense—only the ones the company chooses to talk about.

A final step that some contractors are talking about to help protect proprietary data is a system whereby IR & D technical reports would not be so extensively committed to paper. This entails increasing the number of on-site visits by Pentagon personnel to a contractor's research laboratories—a process that already occurs once every 3 years in an effort to better assess actual IR & D projects. If done once a year, individuals at the Pentagon rather than research reports would hold the bulk of the data about advanced defense research. "Our brochures are currently about the size of three telephone books," said one industry executive. "And the projects are described in detail: the money, the hours, the progress, the whole bit. To the degree that these are threatened, we might find DOD agreeing that both sides could reduce the effort and the amount of information that goes into written papers, and increase the concentration of on-site visits." He emphasized the "might" and stressed that such discussions are at this point just that, discussions.

Such emphasis is probably much to the point. Critics of the IR & D programs are quick to pounce on such suggestions, saying they are an intensification of the secrecy that already surrounds the programs. "The funds are determined by negotiation," Proxmire told a Senate hearing in 1975, "but Congress has no way of knowing what projects are being supported and no way of reviewing them. There is a serious question as to whether the full amounts spent by the larger contractors are being prop-

erly accounted for." Rather than patching up the present system, Proxmire would make most IR & D into specific contracts so they could be regular line items in the federal budget.

In reply, Pentagon officials admit there are abuses under the system but that there is no other way that the United States could have achieved its track record of arms development. Dale Church, the Deputy Under Secretary for Acquisition, puts it this way. "The Pentagon doesn't have all the good ideas locked up. It doesn't even recognize all the good ideas. What program managers may consider the dumbest ideas to come down the pike in a long time might turn out 2 years later to be the thing that saves their souls. We want to make sure there's enough money left around in the pot to keep the government managers from making decisions like that. The contractor should have an equal chance to decide what he thinks will be the real breakthrough areas and the real new technologies. Sometimes we need to give the contractor a free rein and let him go off and do his own thing."

To this, Proxmire points to Air Force and DOD reports that show 65 percent of all IR & D money is spent not on searching for "the real breakthroughs" but on relatively short-term projects aimed at bringing home the next contract. "The bulk of this money is something that could be clearly and easily identified as relating to a specific project in a contract, and should be fully disclosed to Congress. NSF has to do it and so does NIH. I really don't see this as being all that different."

The significance of this debate is not so much who is right and wrong but that it has been going on for nearly 20 years, and that the Pentagon has grown weary of it. The upshot seems clear. Contractors say they are going to get stingy with new ideas for weapons technology. The Pentagon holds its breath and hopes for the best rather than doing anything that might rub Congress the wrong way and renew the long-running dispute. But maybe an out-of-court settlement was all that the AT & T incident called for. After all, the chances of discovery on a government-wide level occurring in the near future seem slight, and successful penetration of the IR & D files even less likely. Perhaps the contractors are playing up the incident for their own purposes. At least one suggested change in the IR & D program would mean less paper work for the contractors, less accountability in what is already a free-wheeling program. The benefits of this approach, however, do not seem to justify the risks. Contractors, too, are aware of the congressional debate over IR & D, and it would seem to be in their best interests not to jeopardize a billion-dollar-a-year pipeline for unrestricted research dollars.

If the contractors are genuinely apprehensive, there may well be a decline in the quality of the IR & D program in the months and years ahead. Would the Pentagon admit as much if this came to pass? For the moment Deardorff says there has not been any change in the number of advance agreements the Pentagon's IR & D office has been signing, but he says he is watching. "We wouldn't be able to make an evaluation right now," he says, "because the technical reports have been in the contractor's mill for some time. Preparing some of these is a major undertaking, so if there is going to be an impact, I suspect that you won't notice it until late this year."

—WILLIAM J. BROAD

Carter Creates State Radwaste Council

As chairman, Governor Riley of South Carolina could play critical role in search for a political accommodation on the siting of repositories

On 12 February President Carter sent to Congress his long-awaited statement on radioactive waste policy. He also announced his appointment of Governor Richard Riley of South Carolina to chair the State Planning Council on radwaste management, a new entity on which hopes for a politically acceptable nuclear waste program are partly riding.

According to the policy statement, which the President was to present at a White House meeting with Governor Riley and several members of Congress, the federal government's relationship with the states in the siting of high-level waste repositories will be governed by the "principle of consultation and concurrence." Under this principle, the prospective host state will have a "continuing role in decision-making with regard to the federal government's actions on the siting, design, and construction" of repositories.

"If in the final analysis a state said no, the federal government would still have the responsibility and could go ahead [and build the repository]," Stuart E. Eizenstat, the President's assistant for domestic policy, told *Science*. But situations of this kind can be avoided, he said, through the consultation and concurrence process. He said that the Administration does not think that states should be given a right of veto, as some members of Congress have proposed.

Carter urges states "to participate as partners in the program . . . not as adversaries," and to regard the safe disposal of radwastes as "a national, not just a federal, responsibility." More than a dozen states have enacted laws that either prohibit or make difficult the establishment of repositories, giving rise to concern that state opposition will continue to snowball and leave the waste program in a political no-man's-land.

The State Planning Council, which President Carter is creating by executive order, will have 18 members including eight governors, five other state and local officials, a representative from an Indian tribe, and the heads of the Environmental Protection Agency and the Departments of Energy, Transportation, and the Interior. The council is expected to play a key role in helping to work out the political accommodations between the feds and the state and local officials that can allow the radwaste program to go forward.

As council chairman, Governor Riley, a Democrat elected for the first time in 1978, could be one of the major actors in development of radwaste policy. He was Carter's campaign manager for South Carolina in 1976 and is highly regarded at the White House. Moreover, he is believed to be someone who will have high credibility with other state and local poli-

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