Taken separately, Carter's promises for economic growth, energy development, and environmental protection are ambitious enough; taken together, they are ambitious to a point that some political and administrative miracles might be necessary to carry them out. For example, stepping up the rate of economic growth will increase the possibilities for environmental pollution—the fact that "the environment" suddenly became a big issue several years ago was due in part to the high growth rate of the 1960's.

Also, stepping up coal production rapidly as an alternative to increased reliance on nuclear power and foreign oil could, besides being difficult in itself, put the environment under still greater stress. According to statements he has made to the press, Carter would push development of Appalachian coal in preference to coal in the West, where he believes problems related to water resources, transportation costs, community impact, and environmental degradation might be severe.

Yet, given the high sulfur content of most Appalachian coal and the fact that much of the production would come from contour strip mining, this policy could lead to worsening air quality in urban regions and more environmental havoc in coal states such as West Virginia and Kentucky. The adoption and enforcement of a tough law regulating coal stripping, together with an all-out effort to reduce sulfur emissions by requiring utilities to use the best available pollution control technologies, might reduce these problems to manageable and acceptable limits—but, if one looks to past experience, the prospects are not particularly encouraging.

On questions having to do with foreign policy and national security, some of Carter's statements—such as those criticizing the Helsinki agreement and implicitly challenging Soviet hegemony over Eastern Europe—have a sharp, hawkish edge. But, in general, his attitude seems supportive of detente, and he has gone further than Nixon or Ford ever have in some of his proposals for arms control. For instance, he has advocated a 5-year moratorium on nuclear testing and the early negotiation of a comprehensive test ban treaty, to be verified by "national technical means" and without on-site inspection. The Threshold Test Ban Treaty, which has been signed but not ratified, he regards as "wholly inadequate."

Carter has criticized the strategic arms ceilings arrived at at Vladivostok as too high but has left open the possibility that he might accept those ceilings as a step toward further arms negotiations. In his view, the Republican Administration has "gutted" the Arms Control and Disarmament Agency and flouted the new law requiring arms control impact statements for all major new weapons programs. And he has said that, although there might eventually be a place for the B-1 bomber in the U.S. weapons inventory, this weapon should not now be produced and deployed.

Carter has perhaps been more outspoken and specific on the problem of nuclear proliferation than on any other national security issue. For example, he has called for all nations to adopt a voluntary moratorium on the sale or purchase of nuclear enrichment or reprocessing plants—and for this moratorium to apply retroactively to the recent purchase agreements between Germany and Brazil and between France and Pakistan; further, he says that the U.S. government should not allow any domestic commercial reprocessing "until the need for, the economics, and the safety of this technology is clearly demonstrated." Should such reprocessing ever go forward, Carter believes it should be on a multinational basis.

Although many of Carter's positions on domestic and foreign policy issues can be regarded as extraordinarily ambitious, his partisans will respond that they are no more ambitious than the times call for. And, if it is fair to say that the accomplishment of his aims may require political miracles, it is perhaps equally pertinent to observe that Carter's sudden and wholly unexpected emergence as a contender for the presidency was itself something of a miracle—one brought about by extraordinary political determination and skill. In the final analysis, many voters who decide to go with Jimmy Carter for president may be making a judgment that Carter would be as serious and resourceful in office as he has been in seeking office.—LUTHER J. CARTER

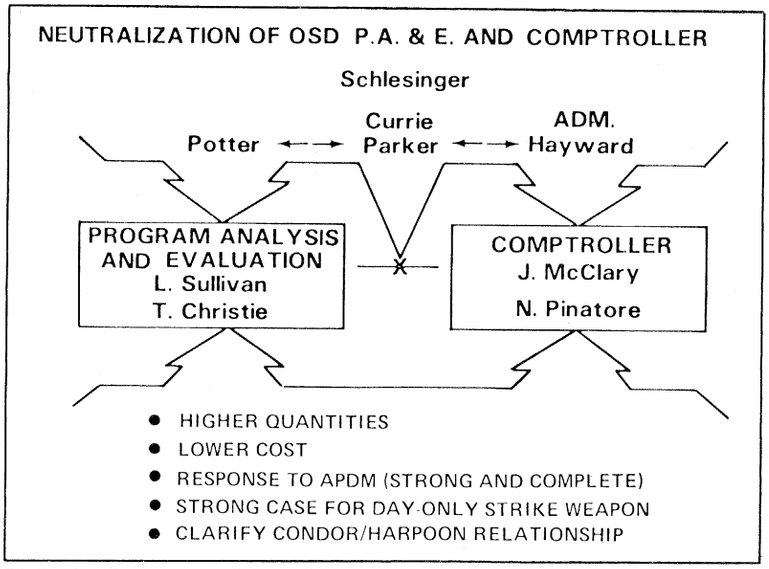
Conflict of Interest: DOD's Currie Charged with Favoritism to Rockwell

Senator William Proxmire (D–Wis.) has called for the "suspension" of Malcolm Currie, chief of Pentagon research, and his deputy from "all further R & D or procurement activities" in the light of the findings of a 5-month Senate investigation into the question of whether Currie showed favoritism toward the Rockwell International Corporation. The "evidence is strong enough to warrant" their dismissal, Proxmire said, but that question should be left up to Secretary of Defense Donald Rumsfeld.

As the results of the investigation were released, Rumsfeld issued a statement of support for Currie, but said that he had not had time to actually read the Proxmire report. In March, Rumsfeld "severely reprimanded" Currie for having accepted Rockwell's hospitality by spending Labor Day weekend in 1975 at a company-owned Bimini resort with its president. Senator Thomas F. Eagleton (D–Mo.) called for Currie's resignation and asked the Proxmire Subcommittee on Investigations, of the Joint Committee on Defense Production, to examine Currie's actions regarding a controversial missile Rockwell was developing, the Condor.

The report, an unusually detailed legalistic document couched in very restrained language, charges Currie with a particular kind of conflict of interest. Aside from the free Bimini weekend, it found no evidence that promises of jobs or "gratuities" had been offered to Currie by Rockwell. Instead, however, there was a pattern whereby Currie acted "on its behalf to such a degree that questions could be raised about whether he may have given preferential treatment" to Rockwell. The appearance of giving preferential treatment to any person is specifically prohibited by Pentagon standards of conduct.

The General Counsel of the Department of Defense, Richard A. Wiley, who must enforce such regulations, has not



In 1974, Rockwell International Corp. devised a plan, shown above in a company slide, by which Malcolm Currie, Pentagon research chief, and his deputy, a former Rockwell employee, would be the linchpins of an effort to overcome Pentagon skepticism about Rockwell's Condor missile. Currie subsequently rescued the Condor, but he denies having done so at Rockwell's urging. "Some marketing guys . . . get their brownie points in life by writing memoranda to their bosses saying they can control people like me," Currie told Science *when shown the above slide.*

commented on the latest allegations against Currie. But Wiley revealed on 13 October that he is investigating Currie's deputy, Robert N. Parker, the official named in the Proxmire report and a former employee of Rockwell, and William E. Stoney, another Currie subordinate and former Rockwell employee. The DOD also announced that new "tighter" conflict of interest rules for its employees were being drafted.

Currie, in an interview with *Science*, stated that the treatment he gave Rockwell was no different from that he gives other industry contractors. The subcommittee's minority opinion (signed by all four Republicans on the full committee) concurs on this point, saying that the investigators had found no evidence that Rockwell was treated better than any other company. Both Currie and the minority opinion deny Proxmire's implication of collusion between Currie and Rockwell to assure that the Condor program would go forward. The minority opinion is that it is "woefully inadequate" to infer that a "conspiracy" exists just because "individuals at times may seek a mutual result." Currie told *Science*, "I didn't take any action on the Condor program as the result of any suggestion by Rockwell at any time." The Condor program was finally ended by congressional action in September.

The controversy then, is over what constitutes proper conduct for high Pentagon officials toward defense contractors. The armed services, institutionally, are expected to be the champions of weapons systems they are developing. Likewise, industry contractors often spend much money, time, and passion—and sometimes great shrewdness—lobbying the DOD to renew and enlarge their contracts.

But at the lofty level of the Office of the Secretary of Defense, officials are expected to detach themselves from these obvious vested interests. (Currie, who is Director of Defense Research and Engineering and thence the third-ranking civilian in the DOD hierarchy, falls clearly in this group.) These officials are meant to give the secretary advice that is "as objective as possible." The Proxmire report in effect asks them to maintain a Caesar's wife kind of purity and insulate themselves from any appearance of partiality toward an industrial contractor. On the other hand, Currie seems proud of his "open door" policy toward contractors and of having frequent meetings with company executives. "If they want to come and tell me their troubles, I'll listen," he says.

Currie's alleged cooperation with Rockwell on the Condor is a good example of this thorny problem because the Condor program itself, by 1974 when Currie's alleged improprieties began, posed a typically murky set of choices to Pentagon higher-ups. Predictably, the Navy wanted Condor to move from the advanced engineering phase into production. Rockwell, of course, also wanted this, so that it could start getting some sales returns on its 8-year R & D investment and begin marketing Condor abroad. But other powerful figures, including, at times, the then Secretary of Defense, James Schlesinger, were at best lukewarm about the program.

Condor originated in the early 1960's when the Navy decided that it needed to develop a long-range, precision-guided, air-launched missile. But development began, with Rockwell becoming the prime contractor, in 1966, before today's precision guidance technology bloomed.

Designed for launch from specially adapted Navy attack planes, Condor was to carry its 650-pound tactical warhead over a 60-mile range to its target, presumably a heavily defended ship or a shore installation, either of which is too dangerous for the aircraft to attack directly. It was to be a fair-weather weapon because the pilot would steer it to the target using a television guidance system.

However, in the late 1960's and early 1970's, a new crop of cheaper precision-guided tactical missiles became available. Some were all-weather and not, like Condor, limited to use in daylight and clear weather. The issue for the Pentagon bureaucracy became whether to go ahead and produce Condor anyway, despite the obvious drawbacks: the technology had leapfrogged over that of Condor; the missile had developed reliability problems; cost had ballooned; and modifications, at this advanced stage, would be very expensive. Champions of Condor, such as Currie, argued that the missile was still necessary because it was still a more precise and flexible weapon than the others. Foes argued that other weapons could do some of the same job. Condor is sometimes compared to the Navy's radar-guided Harpoon and its TV-guided glide missile, Walleye II. One Condor now costs $320,000; one Harpoon costs an estimated $250,000; one Walleye II, an estimated $80,000.

The Proxmire report describes Currie's role in the tug-of-war over Condor's fate, which went on in the Pentagon from 1974 through 1976. Currie, the Navy, and, of course, Rockwell favored moving Condor into some form of production. The alternatives were to retain Condor in the advanced engineering phase and try to overcome its considerable technical problems, or to terminate the 8-year, $250-million effort. The latter positions were taken by various people at various times; among them was Leonard Sullivan, Assistant Secretary for Planning, Analysis, and Evaluation; John J. Bennett, Assistant Secretary for Installations and Logistics; and Schlesinger. However, the Proxmire investiga-

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tors took testimony from some of these officials that Condor was really too small ($25 million in 1975) to warrant their personal attention. In this light, the report says, "Currie's activities seem unusual."

For example, in August 1974, Schlesinger had struck the Condor from a proposed fiscal 1976 Pentagon budget request; at the same time, the current year's Condor budget was in jeopardy in Congress. Currie, the report charges, told Rockwell executives in advance of his plan to appeal Schlesinger's cut and gave them advice on how to rescue the situation on Capitol Hill. An internal Rockwell letter states:

> It was Dr. Currie's suggestion that we continue to work the Congressional area and to attempt to get information directly to Senator McClellan, Chairman of the Senate Appropriations Committee; this is under way.

Currie confirmed this account to *Science* and added that he has often given contractors advice on their dealings with Congress. The Proxmire report, however, terms this "political advice" and suggests this conduct was improper.

Currie also allegedly overstepped the limits of propriety when he came back from Bimini in September 1975. Says the report: "Currie should have considered removing himself from Defense Systems Acquisition Review Council and all other Condor program deliberations and decisions." But Currie says that he "never considered" removing himself from Condor decisions because, "The trip had nothing to do with Rockwell International or anything to do with business."

Later, in September and October, Currie allegedly followed an "irregular procedure" to "not unduly delay a production decision . . . [and] ensure the ultimate production decision was favorable . . . for Condor," according to the report. Condor, this time, was threatened by the feeling among the four high-level civilians at a 30 September DSARC (Defense Systems Acquisition Review Council) meeting that Condor was not ready for production. Currie was among the DSARC principals who expressed this view. But the report argues that afterward, he nonetheless usurped the role of the DSARC chairman, Bennett, by drafting his own decision memorandum on Condor, circulating it for comments, and calling an executive session of DSARC to get a consensus.

Currie's draft memorandum, and his editing of the others' comments on it, consistently strove to authorize some form of limited production, establish a lenient test program for Condor, and eliminate more high-level reviews. Ultimately, Currie lost on some of these points, the report says. The final memo, approved by the DSARC (with Sullivan, Condor's harshest critic, dissenting) and then approved by Deputy Secretary of Defense William P. Clements, did not authorize production and mandated yet another program review. But the lenient test requirements, which Currie advocated, were finally included instead of a more rigorous test plan proposed by Bennett.

Currie has maintained that the opposite is true, that the Navy wanted "full production" of Condor and that, after the DSARC, he was the architect of a "production slowdown." And, he denies having followed an "irregular procedure": "We have DSARC's all the time. I often step in and take the lead."

Currie is alleged also to have believed DOD had made a "firm commitment" to production of Condor in December 1975. Then the Office of Management and Budget (OMB) included the small Condor program in a giant, $6 billion cut of DOD's fiscal 1977 budget request. Normally, all appeals of such OMB actions are to go through the Pentagon comptroller, the report says. But instead, Rockwell internal documents say Currie "unilaterally" undertook to reverse this decision. Rockwell documents claim Currie wrote to his Pentagon superiors protesting the cut, but Currie told investigators he had "no specific recollection" of such a letter. But on 13 October after the Proxmire report went to press, the investigators obtained a letter, dated 26 November, from Currie to Clements and titled "Condor: Time Urgent." It concludes:

> Recommendation: Reclama [appeal] the OMB action this week so that Congress will understand our firm commitment to proceed into production using the FY76/77 funds.

Senate investigators note that, at the time, there was no "firm commitment to proceed into production" with Condor; this decision was not made until the following June, at a DSARC review—which Sullivan did not attend because his job had been eliminated and Parker represented Currie.

Proxmire's report, in each of these incidents, cites many Rockwell documents in which company executives repeatedly refer to Currie, Parker, or the Directorate Defense Research and Engineering (DDR & E) as allies whose support can be counted on for the "neutralization" of skeptics within DOD. The company even gave a slide show showing elaborate strategies for maneuvering the Condor around various obstacles (see chart). Often the actual outcome was close to what Rockwell had anticipated. These documents make it clear, at least to the Proxmire subcommittee, that Rockwell had easy access to internal DOD documents, opinions, and activities. Quite simply, the Proxmire report appears to be outraged by this, since some of the documents referred to were refused to the Senate committee. The report says near the end and printed in italics for emphasis:

> *The contractor, which had no official standing in these processes, was apparently permitted to witness and participate in these deliberations.* This suggests the possibility of "giving preferential treatment" which is specifically prohibited by the departmental standards.

Toward the end, the report broadens its scope to attack recent organizational changes which it alleges have weakened independent review and have made the alliance between armed services, contractor, and DDR & E within the Pentagon bureaucracy more powerful. Specifically, the report laments the recent downgrading of Sullivan's program analysis and evaluation office, which is the heir to the systems analysis group of the McNamara era and regarded as one of the sternest internal critics of many pet armed services projects. (In the report, Sullivan comes off as a hero. He testified "I made a practice of not seeing the contractors during that period of time.") Finally, it claims that the DSARC—which is meant to be a vehicle for top-level civilian review, in the case of Condor, "failed."

The stir so far created by the Proxmire attack on Currie does not seem to have aroused enough political alarm to force Rumsfeld to fire his research chief or promise a major overhaul of DOD rules. So it may be left to a new administration to face down the crucial question which the Currie controversy has raised, namely, how close high officials should be, or appear to be, to defense contractors.

—DEBORAH SHAPLEY

RECENT DEATHS

Richard Archbold, 69; president, Archbold Expeditions, American Museum of Natural History; 1 August.

Herman H. Long, 64; president, Tallladega College; 8 August.

Owen H. Roth, 61; professor of biology, Saint Vincent College; 26 August.