Political Fallout from Three Mile Island

Slower growth of nuclear power and strict regulation of reactors is called for by some key members of Congress

The era of commercial nuclear power opened in Pennsylvania 22 years ago when the first small 60-megawatt reactor went on line at Shippingport. Since then, nuclear generation has grown rapidly and last year contributed more than 12 percent, or 300 billion kilowatt hours, of the nation's total electric output. But with the events at the Three Mile Island power station, Pennsylvania has become the scene of a crisis that will slow further development of nuclear energy and may cause a drastic downturn.

The political fallout from Three Mile Island is such that it now seems unlikely that President Jimmy Carter—contrary to what Secretary of Energy James R. Schlesinger has been urging—will call for a major new push for nuclear power as part of the national energy plan. The President has indicated that he will be emphasizing greater reactor safety and the finding of a safe solution to the politically vexing problem of radioactive waste disposal.

The Three Mile Island incident has given a new credibility to antinuclear groups such as the Union of Concerned Scientists (UCS) and provoked an outcry by members of Congress for more effective licensing and oversight of reactor operations by the Nuclear Regulatory Commission (NRC). Already, there is a possibility that eight other nuclear plants —all similar to Three Mile Island unit No. 2 and built by the same company (Babcock and Wilcox)—will either be temporarily shut down or required to operate at well below their maximum generating capacity.

After the alarming nature of the situation at Three Mile Island first became evident, Representative Morris Udall (D-Ariz.), chairman of the House Interior Subcommittee on Energy, observed that the Three Mile Island incident is another in a "series of events that lends credence to the contentions of those who think we have rushed headlong into a dangerous technology." Despite all past assurances that the probability of multiple failures of safety systems is slight, Udall said, such failures had indeed occurred, with the trouble compounded by one or more instances of human error. In his view, the Three Mile Island crisis pointed up the NRC's "wisdom" in recently shutting down five reactors in the eastern United States after the discovery that a computer modeling error had resulted in some cooling system piping being below standard for stress resistance in the event of an earthquake.

Appearing on a television interview program along with the staunchly pronuclear Norman Rasmussen of the Massachusetts Institute of Technology, Udall said that the "incredibly optimistic" view which people held of nuclear technology in the 1950's and 1960's has been shaken, so much so that the nuclear enterprise might simply be allowed to wind down. Reactors now operating or under construction might not be replaced once they wear out, he suggested. "It [the prospect for nuclear power] is pretty bleak," Udall said. "I'm more pessimistic than I was a week ago."

If Udall had lost all of his "technological optimism," Rasmussen still had his. Rasmussen, so stolid and unflappable that at times he appeared graven in stone, plainly did not see the Three Mile Island incident as significantly undercutting the findings of the Reactor Safety Study which he directed for the NRC, although he conceded that it might "cause us to raise our probability figures somewhat."

In his response to the Three Mile Island incident, Senator Edward M. Kennedy (D-Mass.), chairman of an energy subcommittee of the Joint Economic Committee, spoke out against a Schlesinger proposal for a speed up in nuclear plant licensing. "It is more important to build these plants safely than it is to build them quickly," he said.

The chairman of the Senate Nuclear Regulation Subcommittee, Senator Gary Hart (D-Colo.), will offer legislation to establish continuous federal monitoring of all reactors and to have federal experts ready at all times to intervene in any crisis that arises and take full control. Under another Hart proposal, all states in which nuclear reactors are situated would prepare and rehearse emergency plans for evacuating communities near those reactors.

The Democratic majority leader, Senator Robert C. Byrd, also has said that the Pennsylvania incident raises "serious questions" about the safety of nuclear energy, and has called—somewhat opportunistically—for a greater reliance on coal, which his state of West Virginia produces in abundance.

At present, nuclear generating capacity in the United States totals 52,396 megawatts, and is provided by 72 fully licensed reactors, including at least six now shut down temporarily for reasons of public health and safety. This compares with the goal set forth by the Carter Administration 2 years ago to have 380,000 megawatts of installed capacity by the year 2000, a goal which the nuclear industry has regarded as excessively modest.

But there is now reason to wonder whether installed capacity will rise even to the 192,738 megawatt level which can be achieved if work on the 92 reactors already licensed for construction is completed and if licensing and construction of the other 34 which utilities have ordered actually goes forward. Even in 1978, prior to the onset of the present wave of troubles, 12 orders were cancelled, most of them because of lowered projections of future power demand and the financial squeeze in which many utilities find themselves. But two cancellations resulted from the state of California's refusal to allow the San Diego Gas and Electric Company to build Sundesert units 1 and 2 in the absence of a federally demonstrated and approved technology for permanent disposal of radioactive wastes.

California utilities are used to heavy political and regulatory weather, and, in nuclear matters, the worst of it often comes from Sacramento and not Washington. In the present situation, Governor Jerry Brown seems to have gone further than any Washington official by urging that the Rancho Seco nuclear unit, a sibling of Three Mile Island unit No. 2, be shut down for a thorough safety inspection. As NRC records bear out, Rancho Seco had some trouble last year with its integrated safety control system.

The thinking of utility executives across the nation about nuclear power may turn partly on whether the stricken Three Mile Island reactor can be returned to service, or whether it becomes a "billion dollar mausoleum." Some NRC officials see the latter as a real possibility.

Nuclear industry spokesmen have been trying to keep their courage up by suggesting to reporters that, short of a

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disastrous meltdown or explosion, the Three Mile Island incident would not be too damaging to the industry and might even turn out to be a plus by demonstrating that safety backup systems had ultimately worked. In fact, if nuclear power does not go into a decline after Three Mile Island it may be only because coal is the only other near-term alternative to oil and natural gas for power generation, and coal is dirty. "If it weren't for coal, we'd be dead," a nuclear industry official told this reporter last year, long before the present uproar.

By the same token, the proponents of energy conservation and solar energy see the Three Mile Island crisis as an opportunity to win support for a greater national effort in these fields. The Council on Environmental Quality will, according to Gus Speth, a council member, be working within the Administration to that end. A recent CEQ publication *The Good News About Energy*, which stresses the advantages of conservation, indicates that economic prosperity through this century is possible without building any more coal-fired or nuclear plants than the number now under construction.—LUTHER J. CARTER

Low-Level Radiation: A High-Level Concern

The federal government is gearing up to reevaluate its research and regulatory responsibilities

Over the past year, in what some regard as a rather impressive shift, the federal government has made it clear that the problem of low-level radiation is an important one that needs to be addressed in a more orderly and responsible manner than has hitherto been the case.

The question everyone wants an answer to is this: Are current exposure limits, for workers and the general public, safe? At the same time, two broad institutional issues require sorting out. One is related to setting exposure guidelines and the degree of centralization there should be in promulgating specific regulations. The other, which promises a sustained period of interagency wrangling, is related to the question of who in the federal government should have primary responsibility for research on the health effects of radiation. This has long been the domain of the atomic energy establishment, now embedded in the Department of Energy (DOE). Many think it is time for the Department of Health, Education, and Welfare (HEW) to take the leading role.

Low-level ionizing radiation has become the focus of one of the longer-running scientific debates of our time. Although the major mistakes—notably, exposure of troops and civilians to radiation and fallout from aboveground atomic tests—are now in the past, their legacy persists in the form of simmering uranium mine tailings, cancer deaths allegedly caused by radiation, and perhaps most pertinent to the present, pervasive public mistrust of the DOE and the Department of Defense, agencies believed by some observers to have covered up the true extent of the hazards.

Nature supplies half the radiation the average human being is exposed to in a lifetime. Of man-made radiation, 90 percent is generated in medical uses. The other 10 percent is accounted for by occupational exposure, mostly in jobs in the nuclear fuel cycle (from uranium mining to nuclear waste disposal) and nuclear weapons testing.

It is the last 10 percent that has been the focus of most of the controversy. Two developments have contributed largely to turning the issue from a chronic, low-visibility one into a chronic, highly publicized one. The first has been DOE's decision (and its clumsy explanation for it) to terminate a long-term research contract with Thomas Mancuso of the University of Pittsburgh. Mancuso was cut loose shortly before he started coming up with findings linking some cancer deaths among workers at the government's Hanford Reservation with their exposure to low-level radiation.

The other development was the finding by HEW's Center for Disease Control that troops who had participated in a 1957 bomb test called Smoky had twice the number of leukemia deaths (eight instead of four) as would be expected from the prevalence of the disease in the general population.

The President, responding to rising concern in Congress, last summer appointed an Interagency Task Force on Ionizing Radiation, headed by HEW general counsel Peter Libassi, to figure out what the federal government's approach should be to the problem of the health effects of low-level radiation. The group's report, issued in March, has produced a number of initiatives. First, Donald S. Fredrickson, head of the National Institutes of Health, has been assigned to oversee a comprehensive evaluation of all federal research on the biological effects of radiation, a job that will probably enlist the services of the National Academy of Sciences (NAS). In addition, William Foege, head of the Center for Disease Control (CDC), is to design a research program on occupational exposure to radiation. This will include a study of deaths among employees of Portsmouth Naval Shipyard in New Hampshire, which is already being conducted by the National Institute for Occupational Safety and Health (NIOSH, part of the CDC). In addition, the Food and Drug Administration is to work harder with state governments and medical groups to develop ways to lower overall public exposure to medical x-rays. Still to come is a task force report outlining ways in which institutional arrangements can be changed to make for better coordination in both research and regulation.

The reports, although detailed, are predictably cautious. (The group "drew a conclusion, and that is that the science is inconclusive," said Libassi.) They were the subject of a recent Senate hearing at which they were criticized by some witnesses, including Edward P. Radford, chairman of the NAS committee on the Biological Effects of Ionizing Radiation (BEIR), who said that "bland, noncontroversial reports of this kind are the rule in the science policy area, unfortunately." Nonetheless, it is significant that the President put HEW in charge of assessing the research. In the opinion of a spokesman for the International Association of Machinists and Aerospace Workers, which has 25,000 members in nuclear occupations, issuance of the reports "was the beginning of an admission by the government that we've got a hell of a problem."

The political and scientific issues are inseparable, as illustrated by the Mancuso affair. In 1964 Mancuso was

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