ing for research, now the responsibility of the previous budget minister, Laurent Fabius, would not receive any special treatment in 1984. The newly-announced increases suggest that the decision to maintain research as a high priority was therefore taken at the highest political levels.

One possible reason is that France begins its 6-month term as president of the European Economic Community in January. President François Mitterrand said this month that France intended to use this as an opportunity to "launch new cooperative initiatives in the field of scientific research" to keep Europe in the mainstream of "the third industrial revolution."

Mitterrand was speaking at the ground-breaking ceremony for the new 27-kilometer-diameter particle accelerator LEP at the European Laboratory for Particle Physics (CERN). He said that the dominant position which recent experiments in CERN had given to Europe in the field of high energy physics was a good example of what could be achieved through cooperative research, and that the laboratory had become "a symbol of Europe's faith in its future."

—DAVID DICKSON

Investigation Confirms TMI Cleanup Problems

Several engineers working on the Three Mile Island cleanup project charged earlier this year that the job was being done sloppily, without regard for safety procedures established by the Nuclear Regulatory Commission (NRC). Their allegations were made in confidence to the NRC's investigative staff, but soon the dissidents found themselves in trouble. General Public Utilities, which owns the reactor, and the Bechtel Corporation, which has been hired to carry out the estimated $1 billion cleanup, learned that they were being informed on. Soon the chief informant, Richard Parks, was out of a job.

At his insistence, the NRC made an investigation, and on 13 September the agency released the findings. Parks's charges were confirmed in all their essentials. The NRC inspector's report even went further, saying: "The allegations were not only substantiated, but we found them to be illustrative rather than exhaustive."

In brief, the NRC found that the utility and Bechtel were in such a hurry to get on with the job that they circumvented standard operating procedures set out in NRC regulations for normal reactors. In the instance that most upset Parks, Bechtel refused to carry out a required load test on the polar crane inside the reactor building. The crane is used to lift the reactor head and other heavy equipment. Parks, who until he was fired was Bechtel's "start-up engineer" at the site, together with the site operations director and the director of plant engineering, tried to get the company to test the crane before putting it to use. He and others also complained about the poor coordination of various engineering teams and about indifference to safety-related paperwork.

The NRC's inspector confirmed all of this and concluded that the problems arose because Bechtel and the utility thought of Three Mile Island as a special case, one in which the normal rules need not apply. While this might seem reasonable, the NRC says, this erodes NRC's regulatory authority and conflicts with standards that other workers are asked to meet.

The NRC conducted a separate inquiry into its own behavior to find out whether it was true, as Parks claimed, that NRC officials working at the TMI site had colluded with utility officials in violating the rules and in silencing the dissenting engineers. It failed to find any misconduct at the NRC.

The investigation of Bechtel and the utility will continue, the NRC says. Meanwhile, the NRC commissioners have asked the staff to draw up a plan for remedial action.

—ELIOT MARSHALL

USDA Drops Landsat

In recent weeks, the Department of Agriculture has decided to virtually abandon its use of Landsat data, thereby adding to the confusion that surrounds Landsat's potential sale. Because Agriculture has been by far the largest user of that data, its decision undermines the Administration's rationale for selling the satellites to private operators (*Science*, 11 February, p. 752). More immediately, it threatens to delay the launch of Landsat D′, the replacement for the fast-failing Landsat 4 (*Science*, 12 August, p. 632).

The Agriculture Department unofficially gave its decision to Landsat's current operator, the National Oceanic and Atmospheric Administration (NOAA), on 26 August: the fiscal year 1984 budget for purchasing data would be cut from the originally planned $7.5 million to $400,000. In fiscal 1985 it could well go to zero.

The problem is twofold, explained Agriculture officials. First, the Landsat images of a given region come 18 days apart. That is far too long, especially at the height of the growing season, and even more especially in overseas areas where no other information is available and where an insect infestation or a hot, dry wind can kill a crop within days. Second, the only existing satellite, Landsat 4, will be dead by October. "How can you buy data that isn't there?" asks one official. Thus, department analysts have fallen back on a "vegetation index" extracted from low-resolution weather satellite images—which also happen to be available every few hours, and which are a whole lot cheaper than Landsat's.

NOAA officials concede both points, although cynics among them wonder if Agriculture might have a covert motive. If and when the Landsats are sold to a private operator, the deal will almost certainly include federal subsidies and/or guaranteed data purchases. And the bureaucracy being what it is, the agency that uses Landsat the most might well find itself stuck with the bill.

The loss of Landsat's largest customer will hardly enhance the Administration's efforts to find a buyer for the system: market projections have suddenly dropped from some $10 million per year to, at best, $4 million to $5 million per year. Meanwhile, Agriculture's withdrawal has invalidated all the paperwork that NOAA had prepared for the early launch of Landsat D′ this spring. That satellite is urgently needed to provide data continuity after the imminent demise of Landsat 4. But if the delay in redoing the paperwork translates into too long a delay in launch, then celestial mechanics will force NOAA to slip the launch into the fall.—M. MITCHELL WALDROP