

FRENCH RESEARCH

One-Two Punch Leaves Physicists Gasping for Breath

PARIS—Scientists in France are reeling from the news that one of the country's largest research institutions, the Commission for Atomic Energy (CEA), intends to pull out of two major physics facilities: the Soleil synchrotron now under construction and the venerable Orphée neutron reactor. The pending cuts are the result of severe belt-tightening at CEA, which also plans to trim its scientific staff over the next several years.

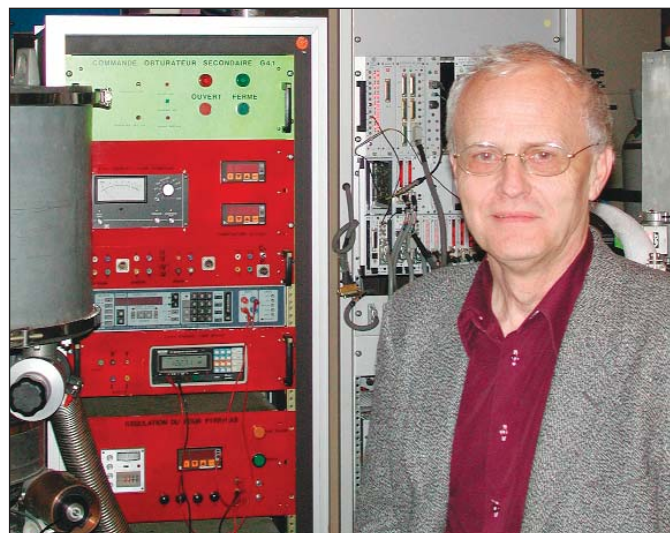
CEA's €18.3 billion civil budget for the 2004 to 2012 period. One high-profile casualty is the Soleil synchrotron, a third-generation machine that is intended to serve everyone from structural biologists to materials scientists. Bugat says that CEA will not pay its 10% share of operating costs of the €385 million facility, due to come on line for some experiments as early as 2006. That will force Soleil managers to find other sponsors to plug the gap. It will also cut CEA researchers out of the action at Soleil, just 1 kilometer down the road from CEA's main research labs in Saclay. "It doesn't make sense for the CEA to pay for

ment as the "touchiest issue."

Scientists are stunned. The proposed cuts are more drastic than expected, says Pierre Monceau, director of the CEA-funded Léon Brillouin neutron research facility in Saclay. "Some research may have to simply stop," he says. Others view the plan as CEA lurching toward applied projects. Bugat and other CEA managers "do not appreciate basic research," contends Alain Milsztajn, a CEA nuclear physicist in Saclay. The job losses, adds CEA neutrino physicist Michel Cribier, take aim at a research community that's already suffering: "Particle physics has already lost 25% of its researchers [in France] in 6 years."

Three of four ministries that must approve the plan have done so, government sources say. The lone holdout is the research ministry. With the fate of CEA research still hanging in the balance, Milsztajn and other CEA physicists have banded together as the Committee for the Defense of Basic Research to negotiate with Bugat and the government.

Bugat is likely to take a hard line. For the last 25 years, he says, CEA should have been working to reduce redundancies in physics research between itself and the French basic research agency CNRS. He points out that France is already under fire from the European Commission for failing to keep public spending to defined limits. Although the cuts will delay some projects, Bugat insists



Le misérable? Neutron research director Pierre Monceau says that "some research may have to simply stop" in the wake of proposed cuts at France's Commission for Atomic Energy. The Soleil synchrotron (right) is among the casualties.



CEA's woes began earlier this year, when the government announced that it would cut research funding across the board by more than 9% in 2003. Alain Bugat, who was appointed CEA director last January, says that the previous CEA management had failed to come to terms with the commission's financial predicament: It had long been clear, he claims, that there were insufficient resources to cover CEA's ambitious slate of research programs. They were "dreaming," Bugat says. So over the past few months, he drafted a financial plan through 2012, details of which were first reported last week in the newspaper *Libération*.

The plan calls for cutting €1.4 billion from

the construction of Soleil and then not to use it," says François Gounand, director of materials sciences at CEA.

Another victim is the Orphée neutron reactor, also in Saclay. CEA plans to zero out the \$7 million a year it spends on the 21-year-old facility, which is used by physicists, nuclear chemists, and some biologists. Orphée will be closed in 2006 unless a new source of financing is found, says Bugat. CEA also plans to eliminate 40 positions and freeze hiring in nuclear and particle physics and astrophysics over the next 2 years. They had to "show courage and make choices," says Bugat, who views the downsizing of the 600-strong scientific staff in the physics depart-

that this will not damage CEA's research enterprise and says that basic research will hold steady at 35% of the commission's civil budget. "A year here and there on long-term projects will make no difference," he says.

Others are not so sure. Besides harming CEA research, the cuts could imperil France's contributions to international projects such as a German-French effort to develop high-temperature superconductors, argues Monceau: "We could lose our place in these collaborations." As bad as it looks for French physicists, it may yet get worse.

—JOHN BOHANNON AND BARBARA CASASSUS

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