

## CERN Puts LHC Approval on Hold

High-energy physicists worldwide expected to be celebrating a go-ahead this week for the Large Hadron Collider (LHC), a powerful new accelerator that might reveal the hypothetical Higgs boson and explain how fundamental particles acquire their mass. But for now, at least, the champagne is back on ice. Meeting in Geneva on 24 June, delegates from the 19 member states of CERN, the European Laboratory for Particle Physics in Geneva, failed to approve the SFr2.66-billion (about \$2-billion) project. Britain and Germany had raised a last-minute objection to the size of France's financial contribution, and delegates called a "time out" until the disagreement is ironed out.

CERN officials hope to do so within the next few weeks, but the failure to get the LHC approved on the first try is a blow for CERN director-general Christopher Llewellyn Smith. To meet the collider's scheduled completion date of 2003 without increasing CERN's budget, Llewellyn Smith must get the United States and other CERN nonmembers to contribute around \$370 million to the machine's basic construction costs. And to encourage potential partners, CERN officials wanted member countries to give the project an emphatic thumbs up.

The source of the delay is a shortage of cash for particle physics in Britain and Germany. To ease the burden, both countries argued last week that France and Switzerland, CERN's two host nations, should make an additional contribution to the project over and above their basic CERN subscriptions, which are related to each member's national income. The CERN site straddles the Swiss-French border, and those two countries benefit disproportionately from CERN in terms of local employment and contracts placed with industry. Germany suggested that, in addition to their existing subscriptions, France and Switzerland together should contribute a sum equal to 10% of the LHC's price tag spread over the course of construction.

Splitting this sum in proportion to national income would mean additional levies of \$35 million on Switzerland and more than \$150 million on France. While the Swiss were prepared to negotiate around these figures and strike a deal, the French promised only to make a "substantial" additional contribution. According to French delegates, their government has simply not yet decided exactly how much it is prepared to pay.

Any further delay in approval for the LHC will do little to encourage the United States, Japan, and others to contribute to the



**Missing slice.** CERN is counting on nonmember states to contribute \$370 million to construction costs for the Large Hadron Collider, shown above in a mock-up.

project. And the holdup comes at a time when CERN was hoping to take advantage of some encouraging signals from the United States. In late May, a panel chaired by Sidney Drell of the Stanford Linear Accelerator Center recommended a strong U.S. involvement in the LHC (*Science*, 3 June, p. 1397). But while the Drell report suggested a contri-

bution of \$400 million over the next decade, Llewellyn Smith isn't satisfied, because the money would be split between the cost of the collider itself and its two main detectors, which are not included in the LHC's basic \$2-billion price tag. "I'm going to ask for more," he says. Drell himself says that CERN sources have mentioned a figure of \$550 million for U.S. participation, including detector costs.

But if the LHC is to win even the more modest contribution recommended by the Drell report, U.S. physicists say, the Europeans must resolve their differences fast. "If there is a solid agreement, and it takes a few more weeks, that will not hurt the U.S. arrangements," says John Peoples, director of the Fermi National Accelerator Laboratory in Batavia, Illinois. "[But] if it takes another 6 months, that would really hurt."

—Peter Aldhous

### 1995 R&D BUDGET

## Defense Bill Targets Universities

Representative John Murtha (D-PA) fired a warning shot across the bows of the Pentagon early this week—and hit the universities full square. Murtha, the chairman of the House appropriations subcommittee that controls the Pentagon's \$240-billion budget, thinks the Department of Defense (DOD) shouldn't be increasing its spending on basic research when there's not enough money to pay and outfit the troops. And he thinks that the overhead rates universities charge to support research they conduct for the government are much too high. To drive his point home, Murtha lopped \$900 million from the estimated \$1.8 billion that the department expects to spend next year on all types of university research.

"Because DOD officials are so interested in pure research, I wanted to send them a clear message," Murtha said at a press briefing following approval by the House Appropriations Committee of a bill containing this cut. "With everything else going down, research shouldn't be going up." There is widespread speculation that Murtha's warning shot was also aimed at his colleague, Representative George Brown (D-CA), chairman of the House science committee, who has been trying to curb academic earmarks that Murtha's subcommittee traditionally inserts into the defense bill. But Murtha denies this, saying he is only interested in bringing research increases into line with available funding.

University-based research funded by DOD has risen 22% in the past 4 years, according to figures from the National Science Foundation's annual survey of R&D spending, while defense spending has dropped 15%. Murtha says he's not opposed to basic research, but he says that its long-term impact "falls short" of the military's short-term needs when budgets are shrinking.

Murtha is also unhappy with the indirect cost rates that universities collect from the government for the federal research they conduct. Although the military's 50% rate is similar to the average rate universities charge for civilian research, Murtha feels the percentage is too high. Citing the 1991 scandal at Stanford University as evidence that universities "need to be brought under control," Murtha said he is planning hearings on the subject later in the year.

John Deutch, deputy secretary of defense, said last week that he is "very concerned" about the cuts and that he hopes to work out a compromise with Murtha to preserve the Pentagon's support for universities. Murtha himself held out the possibility of a compromise, either between the House and the Senate once the latter takes up the appropriations bill, or between Congress and the Pentagon. "Now that we've got their attention," he says, "I think we can make some progress on this issue."

—Jeffrey Mervis