LARGE HADRON COLLIDER

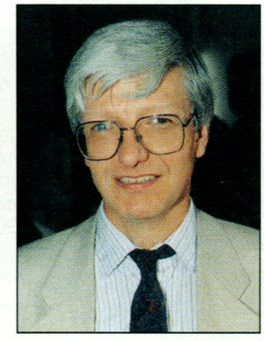
U.S. Tells CERN to Wait for Support

When the 19 member countries of CERN, Europe's particle physics center, agreed last December to spend $2 billion to build the Large Hadron Collider (LHC), they hoped they wouldn't be the only nations paying for the machine. If an additional $500 million could be raised from nonmember countries, the project could be completed 5 years sooner, in 2003 (*Science*, 6 January, p. 26). So last week, CERN's director general, Christopher Llewellyn Smith, came to Washington to scout out the prospects for a $300 million U.S. contribution to the accelerator and its various components, including its superconducting magnets, and $100 million or more for its two major detectors, each of which will cost $400 million. Praise for the project flowed freely, but money was a different story. The best U.S. officials could do was to suggest that Llewellyn Smith return in the fall. By that time, the 1996 budget should have been adopted, and they will have a better idea of what to expect in 1997 and beyond.

"We'd like to do it, but we don't know if we can," Martha Krebs, director of the office of energy research at the Department of Energy (DOE), told *Science*. "Everything depends on the DOE budget." Officials at the National Science Foundation (NSF) sent the same message. "Everybody wants the United States to participate, but we can't make decisions yet," says Robert Eisenstein, director of NSF's physics division. "Even with a good number [in the president's 1996 budget], who knows what we'll wind up with?" DOE's budget request contains $6 million for the LHC, without detailing what it would be used for, while NSF is currently spending $1.5 million on university teams working on the detectors.

The people who will make the final decision were equally noncommittal. "The chairman is interested in U.S. participation," says Melissa Sabatine, press secretary to Representative Robert Walker (R–PA) of the House Science Committee, who met with the CERN director. "He supports basic science, and he likes international collaborations. But it's too early to know; there's a lot still to work out."


DOE


CERN

It takes two. CERN's Llewellyn Smith hopes DOE's Martha Krebs will help accelerate building the LHC.

Last year a panel of physicists, led by Sidney Drell of the Stanford Linear Accelerator Center, recommended that DOE "commit to joining the LHC collaboration," arguing that "we must find a way to do the most important things, and the LHC is one of them." DOE Secretary Hazel O'Leary has "embraced" the report, says Krebs, who has assembled an interagency panel to discuss the relevant issues that would have to be negotiated. Government officials and legislators want to make sure that the United States is given authority over the project commensurate with its financial contribution, and CERN is considering a new category of associate membership for countries making substantial contributions that would, in Krebs' words, "give us a voice, but not a vote" in LHC discussions. CERN officials are holding similiar discussions with Canada, Japan, and Russia on the level of their support.

If the United States fails to sign up, it would be a major blow to the project, says Lorenzo Foa, CERN's director of research. The United States already sends more scientists to work at CERN than any other single country, and as many as 600 U.S. physicists are expected to participate in designing and carrying out experiments on the two detectors. "[The LHC] is a splendid occasion for CERN to increase its role from a regional to a world laboratory," says Foa. "It would be the first example of a global facility." A lack of U.S. participation, he adds, would be a "very, very great disappointment."

The United States is preparing a series of memos for CERN that provides "a framework for future discussions," says Krebs. Foa says that CERN is eager to continue the talks, but in the meantime the project, especially the two large detector collaborations, will move forward. "We cannot wait forever," says Foa. "In particular the experiments must soon go ahead." A final decision on the LHC's schedule is expected to be made in 1997.

–Jeffrey Mervis and Daniel Clery

FEDERAL BUDGET

Senate Votes R&D Cuts, ATP Trimmed

Small cuts in current research spending at several federal agencies moved a step closer to reality last week. The Senate approved its own version of a rescissions bill passed last month by the House of Representatives that would cut billions of dollars from a variety of government agencies. The two bills must be reconciled in May after Congress returns from a 3-week spring recess. Congress also took final action last week on, and the president has signed, a supplemental appropriations bill that will trim some civilian technology programs to help pay for military peacekeeping operations.

The Senate rescission bill contains several cuts identical to those made by the House, meaning these reductions are almost certain to take place. They include: $131 million for an academic facilities program at the National Science Foundation; $650,000 from the Office of Technology Assessment; $35 million from solar and renewable energy research and $7.5 million for a proposed Advanced Neutron Source at the Department of Energy; and $27 million for a new building for the Consortium for International Earth Science Information Network.

The Senate differed from the House on the following research-related items:

- *National Institutes of Health:* $79 million in intramural construction, compared with $50 million in the House bill, although it restores $20 million for an extramural academic facilities program that the House eliminated;
- *National Aeronautics and Space Administration:* Restoration of $400 million for a new wind-tunnel facility; cuts $68 million from various programs, including the Earth Observing System and Hubble Space Telescope, compared to $75 million in the House; and
- *Interior:* A cut of $12.5 million in the National Biological Service, compared with $16.7 million in the House version.

The supplemental appropriations bill cuts $90 million from the $431 million Advanced Technology Program (ATP) at the National Institute of Standards and Technology and $300 million from the $502 million Technology Reinvestment Program run by the Defense Department.

The ATP cut was a particularly bitter blow to a coalition of high-tech industries that had lobbied hard for the program. House Republicans, who see ATP as a misguided attempt at industrial policy, had voted a $107 million cut, but the Senate cut only $32 million. When legislators ironed out differences between the two bills, however, they ended up close to the House mark.

–Jeffrey Mervis