

# LHC is set for approval by CERN— if France agrees to play ball

**London.** With a critical meeting of the council of the European Laboratory for Particle Physics (CERN) due to take place tomorrow (16 December), laboratory officials are cautiously optimistic that they will at last receive the official go-ahead for the construction of CERN's Large Hadron Collider (LHC).

But no-one is counting any chickens before they are truly hatched. At the beginning of the week, it remained unclear whether the package would be acceptable to France. In particular, the French had backed down from an apparent commitment a week previously to pay a sufficiently high 'host country premium' to satisfy both Germany and Britain.

Over the past few months, Christopher Llewellyn Smith, CERN's director-general, has drawn up a complex package of financial arrangements for the construction of the SFr2.6-billion (US\$1.6-billion) collider, which has already been approved in principle by both Germany and Britain — the laboratory's two largest contributors.

A key element is the premium that both France and Switzerland are being asked to pay, in recognition of the extra benefits they will obtain from the LHC, which will straddle the border between them. A visit by Llewellyn Smith to Paris last week apparently failed to resolve the issue.

## Bid to raise interest in research

**London.** Two of Britain's research councils this week launched a £1-million, three-year initiative designed to develop a "lasting interest and enthusiasm" in engineering and scientific research among pupils between the ages of 14 and 16.

The so-called 'Pupil Researcher Initiative' is being launched jointly by the Particle Physics and Astronomy Research Council (PPARC) and the Engineering and Physical Sciences Research Council (EPSRC). Coordinated by the centre for science education at the Sheffield Hallam University, its central plank will be 30 pupil research briefs (PRBs).

These will be small-scale investigative projects based on topical research being funded by the two councils. PPARC and EPSRC researchers will work with school teachers to link the projects with relevant areas in the recently reviewed national curriculum (see *Nature* 372, 211; 1994).

But CERN officials were still hoping as *Nature* went to press that a compromise would be reached by the CERN council's executive committee when it meets in Geneva on 15 December. And that this committee would then recommend the construction of the LHC to the full council, which meets the following day.

If France still balks at the German/British demand, the LHC will be in serious trouble. Both CERN officials and physicists in member states warn that the whole project

ain) and France over the size of the host country premium.

At the time, Germany was insisting that Switzerland and France should jointly contribute 10 per cent of the anticipated cost of the construction of the LHC — SFr260 million — in recognition of their host nation status, in line with accepted practice with other large-scale European facilities.

Switzerland was reported to be prepared to go along with this. But French research officials, whose budget was already under

CERN heavy pressure, said they could go up to only 5 per cent, or SFr130 million (see *Nature* 369, 510; 1994).

Last month, with its federal elections out of the way, Germany indicated that it was prepared to be more flexible. In particular, it reduced its demand for the extra premium to SFr170 million, indicating that the final figure was open to negotiation.

At the same time, however, Germany put forward various other conditions for its support of the LHC — each of which implied considerable new commitments by both CERN and its member states.

First, German officials said that, given their domestic financial difficulties they wanted the CERN budget kept level in constant money terms up to 1998, and thereafter to grow at a rate of only one per cent a year.

Second, they proposed that CERN itself should increase the resources being committed to the LHC by finding an extra SFr600 million from cutting back other activities. Finally, it wanted a clear commitment to SFr500 million from non-member states (in particular Japan and the United States) as the level of contributions that they would be prepared to make to participate in the construction and operation of the new machine.

The harshness of the German proposals led to some strong protests by CERN staff in Geneva. At the same time, however, they appear to have given CERN officials a clear indication of the scope for negotiation — and an outline of the package that might eventually be acceptable to all sides.

It is this package that Llewellyn Smith has been taking to European capitals in recent weeks, and which — following its apparent endorsement by research ministers of Britain, Germany and France at an informal meeting two weeks ago — was due to be presented to the committee of council today (15 December).

The new package is thought to include SFr160 million as the host country premium, with an 'indexation' of one per cent ▶

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could rapidly lose both scientific and political momentum (in particular through dwindling interest from the United States and Japan) that could take several years to build up again.

CERN is being more cautious about the outcome than it was in June. Then, its openly expressed confidence that LHC would receive the blessing of member states was scuttled by an unexpected last minute disagreement between Germany (backed by Brit-

Once the research briefs have been compiled — probably in early 1996 — materials will be sent on computer disk and in hard copy to every secondary school in the United Kingdom. The research councils hope that science teachers will chose three or four briefs to use with their pupils, "encouraging active learning and teamwork".

The PRBs will be supported by various elements intended to give pupils first-hand experience of "what it is like to be a researcher", including the possibility of having their research published in a special *Pupil Research Journal*, and presenting results at regional conferences.

The initiative will also sponsor teacher placements in research laboratories, and provide small bursaries for up to 1,000 PPARC and EPSRC postgraduate students to link up with a local school in order to give talks, work with teachers and help with projects. □