full-length dipole per week, according to Palmer. By April 1984 plans call for about 100 magnets to have been built with 54 dipoles and 23 quadrupoles assembled into a sextant ready for test with beam. By late 1984 the magnets would be cooled down and operated in the Isabelle pulsed mode to provide an integrated systems test. The report says that the R&D schedule is ambitious but with adequate financial resources and proper management the schedule can probably be met. Once the R&D program is completed, it "will provide an adequate test of magnet production capability and enable BNL to proceed with full-scale magnet production."

Concerning the rest of the accelerator systems, Trilling, in his oral report to HEPAP, said that the lattice design is sound and that the vacuum system design is advanced but that other systems are not so far along. He said the panel believes the initial luminosity goal of 2×10^{32} cm^{-2} sec^{-1} is realistic.

The remaining Isabelle cost for construction, R&D, pre-operations, equipment (including detectors) from FY 1983 onward would be about $500 million (FY 1982 dollars). To complete Isabelle by the end of the decade, Trilling said in his oral report, DOE would need a substantial funding increase for high-energy physics in FY 1983, and by FY 1984 one would need to reach $440 million to allow the continuation of Isabelle. —GBL

What will be the future role of national laboratories?

The role of national laboratories is being examined by a number of groups—the White House Office of Science and Technology Policy, the Department of Defense, the Department of Energy, and at least two energy subcommittees in the House.

OSTP plans to examine the role of all Federal intramural laboratories, including those run by DOE, NASA, NOAA and DOD, whether the lab is run by a contractor or not. University and private-sector labs will not be included in the study. According to Douglas Pewitt, now deputy director of OSTP, the Federal government in FY 1982 will spend $15–20 billion on 770 intramural labs. The OSTP review is scheduled to end next summer, but at this writing OSTP is still deciding who will conduct the review.

The Defense Department is already studying its labs, under the direction of Richard De Lauer, who is undersecretary of defense for research and engineering.

Meanwhile, as the Administration plans to disband DOE altogether, many are concerned about the future of DOE-supported research. When we recently visited Alvin Trivelpiece at the Office of Energy Research, he said that DOE functions are likely to continue—civilian nuclear work, weapons production and energy research, regardless of the reorganization.

One persistent rumor is that DOE plans to close one of its multiprogram labs; both Argonne and Brookhaven have been rumored to be in danger. Trivelpiece denied there is any plan to close any multipurpose DOE lab. However, he said, their roles and missions are going to be reviewed. "That doesn't mean we won't consider slowing down and relocating any of the projects at the multiprogram labs. We'd have to invent the national laboratories if we didn't already have them."

Trivelpiece said that hearings have been held under Congressman Don Fuqua (D.-Fla.) to review the missions of the national labs. On its own, through the Energy Research Advisory Board (now headed by Louis Roddis), DOE is reviewing its multiprogram labs and its weapons labs. Trivelpiece hopes the ERAB subpanel will do a long-range look at the labs, considering the appropriate roles for university, industrial and national labs. In addition, Trivelpiece's Office of Energy Research will do its own review of the national labs, involving management and technical issues. The output of both studies should be useful to Presidential Science Adviser George Keyworth.

Keyworth, in a recent speech celebrating the 50th anniversary of Lawrence Berkeley Laboratory, described the OSTP plan to look at the missions and functions of the national labs. He said, "We are examining ways to keep an adequate number of our best young scientists and engineers in advanced research and on our faculties. . . . I think that the national laboratories can play a role in meeting this objective. A wealth of talent exists in the labs to be used in a number of effective ways. The national labs can serve as new training grounds. You can work more closely with industry and academia to create new programs for manpower planning and supply."

"This Administration cannot continue in its budgeting exercise without taking an unprecedented look at the national laboratories and the nation's 'return on its investment,' as it were, from these institutions. . . we are beginning this initiative now. It is one I most certainly intend to carry out in concert with members of the entire scientific community. . ."

"If all this sounds somewhat foreboding to some of you, I'd like to interject an optimistic note here. The scientific community has historically—and particularly in recent years—had a tendency to overreact to the slightest government examination. And therefore, I would encourage you not to be looking for disaster around the corner. It won't come. . . ."

"We are convinced that the national laboratory system comprises a resource of enormous value, one whose health is of paramount importance." —GBL

NSF funds two math institutes

The National Science Board, after considering the recommendations of three NSF panels, recently approved five years of funding for two national institutes for research in mathematical sciences.

The University of Minnesota in Minneapolis was awarded $800 000 for the first year to establish an institute to bridge the gap between discoveries in pure mathematics and their application in other disciplines. The institute will be headed by Hans Weinberger as director and George R. Sell as associate director and will spend its first year considering statistical and continuum approaches to phase transitions.

The Mathematical Sciences Institute at the University of California, Berkeley will concentrate its first year of research on nonlinear differential equations, and numerical methods and statistics. A grant of $1.6 million for the first year will be used to establish the institute, projected to support up to 50 researchers in pure and applied mathematics. Each year the staff, led by Shing-Shen Chern as director and Calvin C. Moore as associate director, will select two areas of mathematics for study.

in brief

The National Research Council will administer about 35 postdoctoral fellowships for Native Americans, Alaskan Natives, blacks, Mexican-Americans and Puerto Ricans engaged in