

state & society

Deutch and Thorne to fill two key DOE research posts

The Department of Energy officially began operation on 1 October, seven months after the White House sent its plan for the organization to the Congress. Within the DOE's organizational scheme, the Office of Energy Research and the Energy Technology Office have inherited most of the R&D programs and facilities previously managed by ERDA; insiders expect physics-related energy R&D to continue largely unchanged under the two new entities. The new department (composed of ERDA, the Federal Energy Administration, the Federal Power Commission and bits and pieces of other Federal organizations) is set up along functional rather than technological lines, with the former ERDA laboratories divided up among the Secretary's office, five assistant secretaries and the head of OER.

The House and Senate passed the Department of Energy Organization Act on 2 August, and a few days later James R. Schlesinger was nominated and confirmed as the nation's first Secretary of Energy. The President has since nominated ten of the 21 upper-level DOE officials requiring Senate confirmation.

New chief for research. John M. Deutch, a physical chemist, is the Administration's choice to be Director of the Office of Energy Research. He received his PhD



DEUTCH

from MIT in 1965, then worked as a systems analyst in the Office of the Secretary of Defense and as a postdoctoral fellow at the National Bureau of Standards before joining the chemistry faculty at Princeton University in 1966. In 1970 he returned to MIT, where he became a professor and later chairman of the chemistry department. Deutch serves on the Defense Science Board and the Army Science



THORNE

Advisory Panel, and he is a member of the APS. His research interests have included liquids, transport processes, light scattering and polymer theory.

Deutch is a newcomer to Washington's energy establishment; he told us he does not yet feel sufficiently familiar with OER's areas of responsibility to comment in detail on his plans for the office. But

continued on page 96

Sandweiss panel urges construction of Isabelle at BNL

The highest priority among future high-energy physics facilities should be given to the construction of Isabelle, a proton-proton storage ring to be built at Brookhaven. Such was the recommendation of a subpanel of the High-Energy Physics Advisory Panel, which met at Woods Hole, Mass. in June under the chairmanship of Jack Sandweiss (Yale University). Other facilities discussed by the subpanel are at Fermilab and SLAC.

The Sandweiss subpanel is the most recent of three HEPAP subpanels that made recommendations on the construction of future facilities to HEPAP, which is headed by Sidney Drell (SLAC). HEPAP in turn unanimously endorsed the recommendations to ERDA. Earlier

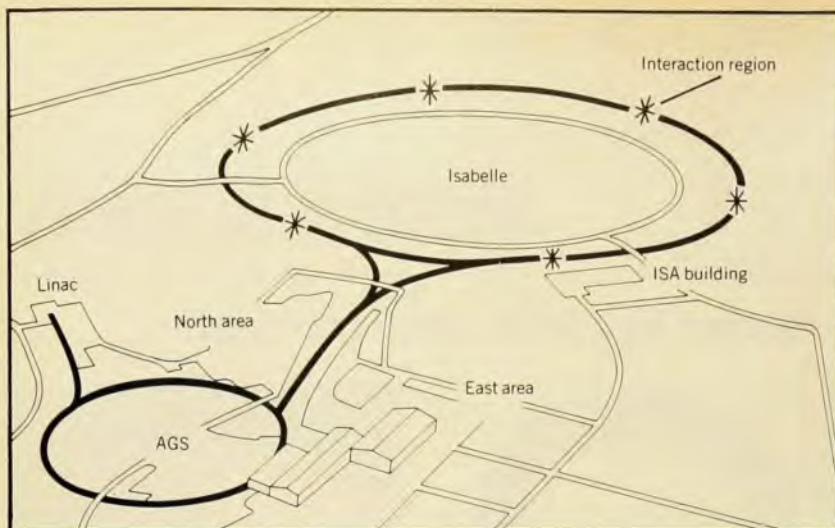
subpanels were headed by Victor Weisskopf (MIT) in 1974 and Francis Low (MIT) in 1975.

The second highest priority, according to the Sandweiss subpanel, is to authorize in FY 1979 \$12.8 million for construction of the Tevatron (PHYSICS TODAY, October, page 23) at Fermilab. This money would be used to convert the completed Energy Doubler-Saver research and development project to an accelerator and extract a 1-TeV beam. At the same time, the group recommended an additional \$10 million be authorized in FY 1979 for the highest priority project or projects that will allow Fermilab to begin fixed-target 1-TeV physics. A third recommendation about Fermilab was that in FY 1979 an

R&D program be supported for proton-proton and proton-antiproton colliding beams.

Meanwhile SLAC and LBL have proposed to increase the energy of the PEP electron-positron storage ring, scheduled for completion in 1979, from 15 GeV in each beam to 24 GeV in each beam. A formal construction proposal was not available for the Woods Hole meeting; so the Sandweiss subpanel chose not to make a specific recommendation on this project.

In the past Brookhaven had been planning to build Isabelle to operate with 200-GeV protons striking 200-GeV protons. Since the Low subpanel met two years ago, technical advances have been



Protons at 30 GeV from AGS go to Isabelle rings, where several hundred pulses are stacked, then accelerated up to 400 GeV in each beam. Collisions occur at six interaction regions.

made that would allow a maximum energy of 400 GeV in each beam with only a 40% increase in cost, according to James Sanford, who is an associate director of Brookhaven and would be director of Isabelle. The cost would rise from \$173 million to \$244 million. Detection equipment for the higher energy facility is expected to cost about the same as that for the lower energy facility.

In a letter to James Kane of ERDA, Drell noted that the Isabelle energy would, on the basis of present theoretical ideas, cross the threshold for producing the carriers of the weak force. If such hypothetical particles are not observed, such a failure would also have a very major impact on our understanding of elementary-particle interactions, Drell said.

Brookhaven already has a design for a 400×400 GeV Isabelle, which takes advantage of the ability to push superconducting magnets to 50 kG, instead of the 40 kG anticipated in the 200×200 GeV design. The larger device would be 3.8 km in diameter instead of 2.6 km. Each magnet would be a bit longer, and 1100 bending magnets would be required instead of 900.

The Sandweiss subpanel specifically recommends that Isabelle operate with a maximum energy of 400 GeV per beam, instead of 200 GeV per beam, and that it have a peak luminosity of $10^{33} \text{ cm}^{-2} \text{ sec}^{-1}$. Sanford anticipates that such a luminosity might be possible. If so, Isabelle would have a luminosity a factor of 20 greater than the CERN Intersecting Storage Rings, which have 30-GeV protons striking 30-GeV protons. The Sandweiss subpanel also feels that Isabelle ought to have eight interaction regions, rather than the six contained in both the old and new designs. Brookhaven is reexamining this feature, but so

far Sanford hasn't found any compelling reason for eight. He worries that the additional experimental areas would add to the operating expenses, which he believes would be difficult to obtain.

Although ERDA had not requested funds from Congress for Isabelle in FY 1978, Congress has appropriated \$5 million for detailed design and some long lead-time procurements for Isabelle. However, Congress had not, at this writing, authorized expenditure of funds for Isabelle in FY 1978. Sanford hopes that President Carter's budget request for FY 1979, to be presented to Congress in January, will include full authorization for Isabelle. If Congress were to comply, Isabelle could be completed five years later.

—GBL

NSF to test electronic information exchange

The National Science Foundation is interested in proposals by small research communities to test "electronic information exchange"—scientific and technical communication by means of data storage in a central facility for instantaneous transmission to remote terminals.

Washington Bulletins

★ **NSF's Research Application Directorate**, often called RANN (Research Applied to National Needs), has been reorganized into a new Science and Engineering Applications Directorate. Physicist Jack T. Sanderson will serve as the Assistant Director in charge of this program.

★ **The new Assistant Director of NSF** for astronomical, atmospheric, earth and ocean sciences is John B. Slaughter, a professor of electrical engineering and the director of the Applied Physics Laboratory at the University of Washington in Seattle. He was recently confirmed by the Senate.

A test facility now exists at the New Jersey Institute of Technology. Groups interested in operational trials should be represented by an institutional agent; proposals or requests for information may be sent to: Access Improvement Program, Division of Science Information, NSF Central Processing Section, Washington, D.C. 20550. (There is no deadline for proposals.)

Frank Press staffs his science-policy office

Frank Press, director of the Office of Science and Technology Policy and science adviser to the President, has filled the key positions on the OSTP staff with the appointment of three assistant directors, two senior consultants and several policy analysts.

The new assistant directors will be: Benjamin Huberman, for National Security, International and Space Affairs; Gilbert S. Omenn, for Human Resources and Social and Economic Services, and Philip M. Smith, for Natural Resources and Commercial Services. Huberman will jointly hold a position on the National Security Council staff as senior adviser for technical affairs; formerly he served with the Nuclear Regulatory Commission as director of the policy-evaluation office. Smith had worked since 1974 as assistant to H. Guyford Stever, then the director of the National Science Foundation and also science adviser to the President.

Jack Ruina and Eugene B. Skolnikoff, affiliated with the Massachusetts Institute of Technology, are the two senior consultants appointed by Press. Ruina, an electrical engineer who has worked for numerous government agencies on scientific research, will be concerned with matters of national security and technology transfer in his new post. Skolnikoff, director of MIT's Center for International Studies, will be responsible for international science and technology affairs.

Among the new senior policy analysts are John M. Marcum (military technology and arms control), Ted Greenwood (national security, energy and resources), William P. Raney (basic research in the

continued on page 96