



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

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mission agencies, as well as national security), Arthur C. Morrissey (space and technology transfer) and Raphael G. Kasper (environment). Others include Louis H. Blair, who will serve as executive secretary of the Intergovernmental Science, Engineering and Technology Advisory Panel; Anne Keatley (international relations), and Richard A. Meserve (legal and technical). Raney will also serve as the executive secretary of the Federal Coordinating Council for Science, Engineering and Technology.

DOE research posts

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he did say he is confident the new DOE formulation "will place greater emphasis upon basic research than was done under ERDA." The OER director supervises the activities conducted until this May by ERDA's Division of Physical Research. At that time it was split into two divisions, which have been transferred intact. These are the High-Energy and Nuclear-Physics Division and the Basic Energy Sciences Division, which includes chemical, mathematical, engineering and nuclear sciences (that portion of nuclear physics directly relevant to energy research and development) and geosciences. The director also heads the Research and Development Advisory Council, which is to watch for and report to the Secretary any undesirable duplication in the department's research efforts. It is expected—though Deutch was not sure the matter had been decided—that the OER will take over ERDA's Office of University Programs as well.

Actually the Act's language does not put the energy-research director in charge of any DOE operations; he is merely required to advise the Secretary on gaps and duplication in all research and development, the state of various laboratories ("excluding laboratories that constitute part of the nuclear-weapons complex") and the education, training activities, grants and other assistance needed for the department's short- and long-term basic- and applied-research activities. However a final duty, to "carry out such additional duties—including but not limited to supervision or support of the assistant secretaries' activities, as the Secretary considers advantageous," is viewed by many as the director's mandate to run physical research. In any case, continuity appears probable for these activities in the near term; an ERDA observer, referring to the 1 October transition, predicted that one "wouldn't be able to tell much difference" between the old DPR and the new OER.

DOE's hardware office. An old AEC-ERDA hand is the President's nominee to

be Assistant Secretary for Energy Technology, the DOE officer responsible for the department's energy-R&D hardware across the US. Robert D. Thorne, acting assistant administrator for nuclear energy at ERDA since early this year, went to work for the Atomic Energy Commission in 1955. He remained with the AEC, serving in a number of positions; in 1972 he became manager of the AEC San Francisco operations office.

Thorne's new job combines much from his energy-management portfolio with the responsibilities previously held by ERDA's assistant administrator for solar, geothermal and advanced energy systems (except for DPR) and the assistant administrator for fossil energy. The assistant secretary is in charge of energy-supply R&D for most fossil-fuel work; nuclear technology, with the exception of uranium enrichment; solar technology, minus heating-and-cooling applications; magnetic fusion and commercial applications of laser fusion; geothermal energy, nuclear-waste management, naval reactor development, and ERDA's electrical storage and electrical energy systems (including transmission). (Laser fusion will remain under the Assistant Secretary, Defense Programs.) Thorne may also be working closely with Deutch and the OER in the evaluation of the basic energy sciences' contribution to energy technology.

Organization. Thorne reports to DOE's Under Secretary, who acts as general manager over the energy-research office and five of the eight assistant secretaries—for energy technology, resource applications, conservation and solar applications, defense programs and environment. (The other three assistant secretaries are in charge of policy and evaluation, intergovernmental and institutional relations, and international affairs.) The Administration has named Dale D. Myers, an aeronautical engineer and administrator, to be Under Secretary of Energy. Myers, who served as associate administrator for manned space flight at NASA from 1970 to 1974, has worked for Rockwell International since 1943 and was associated with the corporation's work on the Clinch River Breeder Reactor and the B-1 bomber before joining DOE.

Unlike ERDA, the Department of Energy is organized according to managerial functions rather than technologies. A White House statement explains that this is so because "while technology development is a continuum, different kinds of managerial skills are required along the way . . . the organization plan avoids entrusting all stages of a project to a single manager or organization." A consequence of this structural arrangement is that projects must be transferred from one office to another as they evolve, with the timing most probably worked out between the assistant secretaries (or di-

rector) involved. When a particular program in Thorne's energy-technology domain, for example, reaches the commercial-prototype phase, the facility would become the responsibility of the resource-applications or conservation-and-solar-applications chief.

Who gets the labs. All of the former ERDA laboratories have been apportioned among the five assistant secretaries with R&D responsibilities and the OER. The energy department's field-organization plans call for Schlesinger's office to hold direct control over Argonne National Laboratory, Oak Ridge National Laboratory, the Solar Energy Research Institute and the Pacific Northwest Laboratory. The Office of Energy Research concerns itself with Fermilab, the Ames Laboratory in Iowa, the Notre Dame Radiation Laboratory, the Bates Linear Accelerator Facility, the Stanford Linear Accelerator Center, Brookhaven National Laboratory and Lawrence Berkeley Laboratory.

Thorne will oversee various laboratories—the Princeton Plasma Physics Laboratory, the Bettis Atomic Power Laboratory and seven others—as well as the Fast Flux Test Facility and CRBR project offices and five "energy research centers." The Assistant Secretary for Defense Programs is in charge of DOE activities at Los Alamos Scientific Laboratory, Lawrence Livermore Laboratory, Sandia Laboratories and Mound Laboratory, plus seven weapons facilities. Various laboratories and gaseous-diffusion plants around the country come under the authority of the environment and resource-applications assistant secretaries, respectively. —FCB

in brief

Two Chilean physicists, Hugo Urrestarazu Silva and Gabriela Salazar Rodriguez, after having been held prisoner since 1975 in a secret military prison in Santiago, Chile, were released and are now living in exile in London. The two attribute their release to international efforts aimed at putting pressure on the Chilean junta to "clean up its image."

Copies of *US Scientists and Engineers: 1974* (NSF 76-329) may be obtained from the Superintendent of Documents, Washington, D.C. 20402 at a cost of \$1.25 per copy.

The Joint Institute for Laboratory Astrophysics is receiving applications for visiting fellowships and research associateships. Applications for research associateships may be sent at any time and, for the visiting fellowships, they must be submitted by 13 January 1978. Information may be obtained from the secretary of the JILA visiting scientists program, University of Colorado, Boulder, Colo. 80309. □