

the facility should be an entirely new machine—such as Argonne's proposed IPNS—or a modified existing facility.

ERDA is funding Fermilab's Energy Doubler/Saver, a ring of superconducting magnets to be installed in the main tunnel. When completed, this project will double the energy of the accelerated protons to 1000 GeV and reduce the electric power used. The development work is being done out of operating funds, rather than with construction funds, Kane said. He justifies the project's support as follows: "We have defined it as a development project, not as construction, until we get a beam. Anything we have to do after that to make it the real Doubler/Saver—like upping the rf, for instance—will be construction," but for now he is trying to get along just using R&D money.

Kane told us his highest-priority construction project for the next fiscal year is a new \$24-million synchrotron light source, proposed in the FY 1978 budget, to be built at Brookhaven. This, too, will be a frontier facility, he said, with applications in many areas of science, not just in energy-related work.

Nuclear-research funding history. Because the President's budget request for physical research at ERDA in FY 1977 was "so stringent," according to Kane, the low-energy portion of the agency's nuclear-science request was deliberately cut back by almost \$3 million. "The OMB didn't tell us to do that, *we* did it," he said, in order to expand basic-research programs in other areas. Congress appropriated an extra \$7 million for ERDA's nuclear-science program last year, but it also failed to authorize any of the ERDA budget, including the additional money. At the time we spoke with Kane, he expected that the program would receive the full \$7 million for nuclear science provided as a Congressional add-on.

Materials and molecular sciences. Kane told us he expects ERDA's support for high-energy and nuclear physics to remain fairly level for the foreseeable future, but in other physical-research areas he looks for increasing activity. Some of the fields to be studied more intensively, he said, are combustion and the formation of pollutants from fossil fuels; the structure and chemistry of coal; catalysis, especially as related to hydrocarbons, and the whole realm of photoconversion, the transformation into usable energy of photons (and the storage of that energy).

Many of these concerns come under the heading of materials sciences, and Kane outlined some of the division's physics-related efforts in this category: For historical reasons, he said, ERDA runs most of the high-flux research reactors in the US; originally used for the study of scattering cross-sections and neutronic phenomena, they now are employed extensively in solid-state research, for which

their neutron beams make fine probes. Because of the slowdown in nuclear-physics support, research-reactor operations may be affected. In the past the nuclear-physics and materials programs had been sharing the cost. Now there is danger that the materials-research program will be unable to afford the increased cost. Kane told us the division is also heavily involved in superconductivity; other materials-related research includes the study of how impurities in coal affect structural materials in fossil-energy plants and of the combined effect of chemicals and stresses in corrosion.

In the division's catch-all "Molecular, Mathematical and Geosciences" program, Kane told us, combustion is an area in which ERDA must really push hard to solve very complex physical problems almost from first principles. The division's mathematics program emphasizes applied, mostly numerical, work; according to Kane, the agency possesses an enormous complex of computation equipment, including most of the really big computers in the US.

"Relevance" vs "Good science." Asked how he chooses which physics research efforts to fund, Kane told us that the agency's energy mission in no way restrains him from supporting promising new physics work that comes along. "I believe deeply," he said, "that so many times you don't know what's 'relevant' until after you do it. Good science has a way of proving relevant." If a mission agency takes the attitude that it won't try anything unless the expected results are clearly relevant to one of its existing programs, then it is heading for trouble, according to Kane.

—FCB

Kissinger asks cooperation for technology transfer

At a National Meeting on Science, Technology and Development convened in Washington, DC by the State Department in the waning days of the Ford administration, then-Secretary of State Henry Kissinger called on the audience of 800 business, government and academic leaders to help in the process of technology transfer. The conference was the first held to assist the State Department in planning for the United Nations Conference on Science and Technology for Development, scheduled to take place in 1979.

In his keynote address Kissinger said, "When we called this conference we were expecting to do some more long-range planning than now turns out to be the case..." When the laughter subsided, he said that if other nations do not have a sense of belonging, "then those who feel themselves disadvantaged, unjustly treated, dispossessed, will band together, and they will join any other group that is willing to undermine the existing order."



KISSINGER

"In the broad self-interest of the United States which, in this sense, is identical with the world interest, development of less-developed nations must be one of the increasing concerns of our country." The developing countries must have access to worldwide capital markets, and they must be helped to find new markets for the goods and services that they produce. Although the international community ought to help them develop, transfer, adapt and manage technology appropriate to their needs, "there is no substitute for hard effort by the developing countries in their own process of development..."

Over the last year the US had made a number of proposals, which include:

- ▶ Creation of an international center for exchange of technological information,
- ▶ Support of regional advisory services under UNCTAD auspices,
- ▶ Establishment of an international resources bank,
- ▶ Development of incentives and measures to curb emigration of highly trained manpower from developing countries, and
- ▶ Establishment of an international energy institute and an international industrialization institute.

—GBL

Office of Naval Research celebrates anniversary

The Office of Naval Research has marked its thirtieth anniversary with an awards banquet and a two-day symposium. Highlights of the celebration were the presentation of a citation to ONR by William A. Fowler, president of The American Physical Society, and an award honoring James A. Van Allen, discoverer of the radiation belts that bear his name.

Fowler's citation praised the Office for setting an example "in establishing a pattern of support for research in physics, and in other sciences," that has proven