AIP, APS Move To Offset Page-Charge Revenue Drop

US publishers of physics literature are arguing publicly and privately for a continued payment of page charges by authors' institutions, but they are moving simultaneously to minimize potential losses of page-charge revenue.

The American Physical Society announced (*Phys. Rev. Letters*, **21**, 1301, 1968) that effective immediately authors will be asked when their paper is accepted to state whether their institutions will honor page charges. Beginning 1 Jan. the number of pages to be published in *The Physical Review* will be determined by page-charge income.

In this issue of PHYSICS TODAY (page 126) H. William Koch, director of the American Institute of Physics, announces that all AIP-owned journals will require a statement of whether charges will be honored before processing of the manuscript begins. No discrimination will result, however.

Samuel A. Goudsmit, APS editor-in-chief, began his announcement: "We have learned that some institutions have decided to ameliorate budget cuts by suddenly stopping payment of page charges, after having honored them for decades. This will have a disastrous effect on the continuation of our journals."

APS expects a deficit of about $200 000 in 1968 even if the customary page-charge payment rate of 86% holds up. Goudsmit said each drop of 10 percentage points in the payment rate would cost APS another $70 000 in the remainder of 1968; each 10-point drop in 1969 would cost $140 000.

Exact current rates of payment are not available. Under present procedures APS and AIP do not know whether the charges will be honored until the paper appears in print. The alarm was set off not by a substantial drop in payment but by the public decision of some administrators at research institutions not to honor the charges.

Federal agencies have approved payment of the charges under a policy established by the Federal Council on Science and Technology in 1961. The potential problem now facing journals has been brought informally to the attention of Donald F. Hornig, the President's science adviser.

Speaking for the APS, Goudsmit noted that page charges pay the prepress costs of journal production. This has kept subscription prices low enough so that physicists can afford their own copies of journals. Without page charges paying up to 70% of the production cost, he noted, the APS-member subscription rate for *The Physical Review* could rise from $50 to $600. The price of *Physical Review Letters* could jump from $15 to $175. Circulation presumably would be reduced accordingly.

Since APS initiated page charges in 1931 for *The Physical Review*, they have been adopted by member and institute journals of AIP, the American Chemical Society, and other scientific organizations. Most European journals, on the other hand, do not use page charges.

ACS expects a 10% drop in page-charge revenue by mid-1969 as a result of reduced research budgets. The society plans nevertheless to extend page charges to four more journals as of 1 Jan. and to raise the charge from $35 to $50 a page. In 1969, 13 of the society's 20 journals will be partially supported by page charges.

In 1931 the APS Council started with a charge of $2 a page. On the basis that research is incomplete until results are published, the charge was expected to be paid by the author's institution but was not obligatory. The price included 100 reprints.

Success of the plan prompted other AIP member societies to adopt the plan under a Rockefeller Foundation guarantee that for six years it would underwrite the cost of papers not supported by page charges. Even though the program was extended for a year, grants totaled only $22 000. The

RESONANCES

The American Physical Society will meet in Chicago in 1970 as scheduled if the Council accepts the recommendation of its executive committee. In reply to members who had protested events there during the Democratic convention and asked that the meeting be moved, President John Bardeen said the society had little choice but to honor its contracts. Jay Orear of Cornell has pledged to raise the question during the New York meeting on 3–6 Feb.

At least one scientist was elected to a major public office on 5 Nov. Republican Russell W. Peterson, a chemist who is director of research at du Pont, defeated Delaware Gov. Charles L. Terry Jr, a Democrat. But Weston E. Vivian of Michigan failed to regain his seat in the House, losing to Republican incumbent Marvin Esch by 13 500 votes.

President-elect Nixon is committed to more money for science, especially in the field of new weapons. But he is also committed to economy, and will have to deal with a Congress basically unchanged from the 90th. Nixon had not named a science adviser by 20 Nov.; former Atomic Energy Commission Chairman Lewis L. Strauss was his principal organizer of scientist-supporters during the campaign. Donald F. Hornig, the current presidential science adviser, begins work for Eastman Kodak 1 Jan.

foundation's endorsement of the plan helped the acceptance of page charges by research institutions.

When all member-society and AIP journals were unified in one publishing system in 1933, the charge was raised to $3 a page. It remained there for 14 years, although costs continued to rise. Journals offset deficits by charging more for reprints to authors whose papers were not supported. By 1947 income was inadequate again; the charge was raised to $4.

Page charges increased along with costs as the volume of research and publication increased; *The Physical Review* now charges $60 a page. Page charges as a fraction of total research cost apparently have remained stable, however, at about 1% from the 1930's to the 1960's, according to AIP figures.

Army Nuclear Lab Dedicates 15-MeV Tandem in Maryland

The Army's 15-MeV tandem Van de Graaff accelerator went into operation during October at the Nuclear Defense Laboratory at Edgewood Arsenal near Baltimore, Md. A team of civilian and military physicists runs the machine, and arrangements for shared use are being worked out with half a dozen universities in the area.

The machine and its new building were dedicated 25 Sept. Final tests were to be completed by the end of October and the accelerator formally accepted from High Voltage Engineering Corp. It was the first time High Voltage had acted as general contractor for a complete installation.

Delays were encountered after the machine was ordered in October, 1964; some consultants criticized a lack of planning when the completed machine was stored in Massachusetts while a building was erected at the arsenal (PHYSICS TODAY, July 1967, page 85 and October, 1967, page 9). Ground was broken 5 July 1967 and the pressure vessel moved in through an open wall last 17 Jan. The first beam was achieved in September.

The accelerator's mission is that of the entire NDL: study of initial and residual effects of nuclear weapons and evaluation of shielding. The work is aimed at protecting both soldiers in the field and civilians at home. NDL has had a 750-keV Cockcroft-Walton generator since 1960. Some 150 persons are assigned to NDL, about 100 of them scientists.

The tandem accelerator staff numbered 16 (about half with PhD's) at the time of dedication and was to be expanded to 25 (keeping the same ratio of PhD's) when the machine and all experimental apparatus were in operation. Directing the entire NDL staff is Donald Eccleshall, formerly head of the accelerator team. Eccleshall had been scientist-in-charge of the tandem accelerator at the Aldermaston Research Centre in England before coming to Edgewood.

In an interview just prior to the dedication, Eccleshall told PHYSICS TODAY the tandem arrangement was "remarkably good" in preventing spurious scattering. The neutron target room has been designed to eliminate as much spurious scattering as possible. It is 24 by 24 meters; targets and counters can be suspended from a steel frame 12 meters above the floor. The walls on three sides are of very thin plastic supported by a spidery skeleton, also designed to reduce neutron scattering.

The beam is pulsed to aid in computation of times of flight. Neutrons have a flight path of 10 meters before encountering detectors.

A second experiment hall, for charged-particle studies, is heavily shielded in the usual fashion. An interlock prevents the machine from working unless shielding doors are closed.

Stainless-steel beam-transport tubing and use of ion pumps should minimize noise from the build-up of impurities on the targets.

Virtually all of the research performed with the accelerator will be reported in the open literature. The machine will be available to scientists in other parts of NDL, throughout the Department of Defense and to universities. Eccleshall said contacts had been made with Johns Hopkins, the Universities of Maryland and Delaware, Drexel Institute of Technology and Catholic University. Negotiations are under way with the National Academy of Sciences to establish a postdoctoral associateship program.

ARMY ACCELERATOR. Donald Eccleshall, left, director of the Army's Nuclear Defense Laboratory, and Edwin H. Bouton, associate director, chat next to the beam transport of the lab's new 15-MeV tandem accelerator, dedicated on 25 Sept.

Films on Fluid Mechanics Can be Rented or Bought

Fluid mechanics films of significant research data are available through the Engineering Societies Library, 345 E. 47th St., N. Y., N. Y. 10017. At present, the library has about 80 films in stock which can be either rented or purchased. With each film comes a "scenario" describing the conditions and parametric values for each scene. A catalog containing all the scenarios and describing library operations and typical costs is also available at $8.00 per copy.

Oak Ridge Plans Nuclear Centers For Development Of Arid Lands

Nuclear reactors at the edge of a sea could provide the water and electrical power to meet the industrial and agricultural needs of 100 000 persons, according to a study published by Oak Ridge National Laboratory.

The study was aimed at develop-