

Americans, Soviets Sign Radiation Pact

RESEARCH TRIANGLE PARK, NC — A formal agreement has been signed by the United States and the Soviet Union for a cooperative study program to analyze effects of microwave radiation on the central nervous system and behavioral reactions.

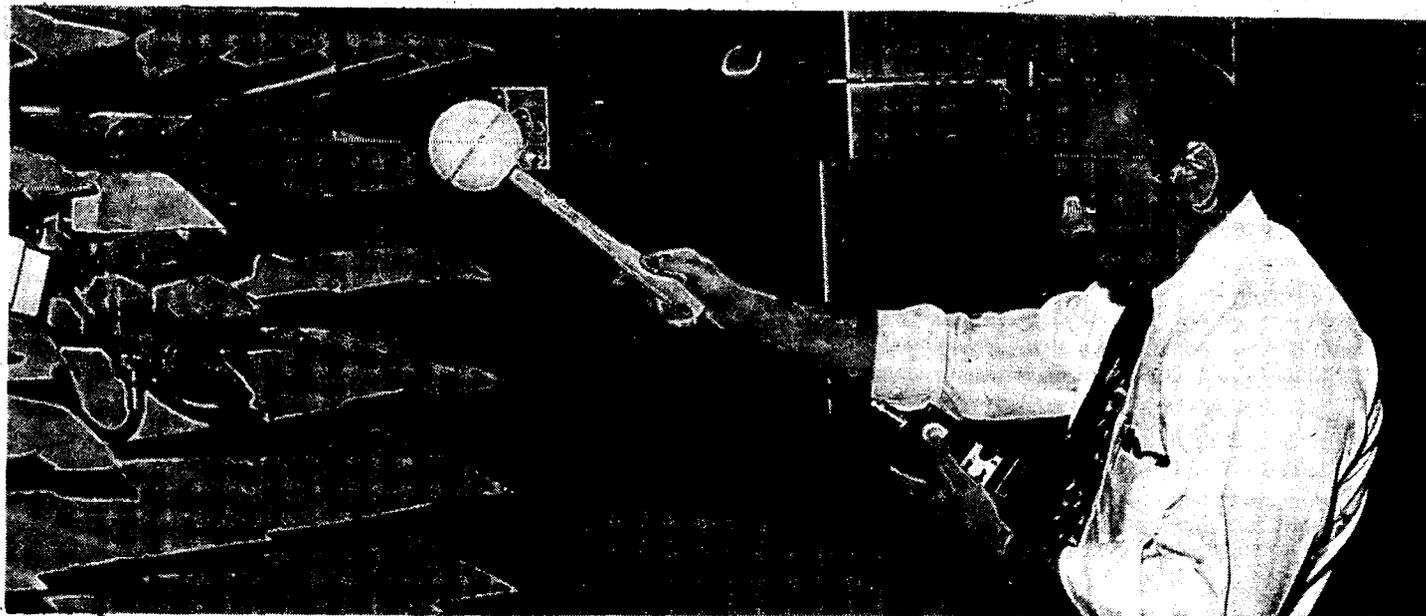
The agreement, signed in Washington October 20 by Dr. Donald I. McRee of the National Institute of Environmental Health Sciences and Professor M.G. Shandala of the Kiev Institute of General and Communal Hygiene at Kiev, outlines the aims, methods and scope of the investigation.

According to McRee, no special funding has been granted for the cooperative effort. Research is being incorporated into existing programs at the Bureau of Radiological Health, the Environmental Protection Agency and the National Institute of Environmental Health Sciences, in cooperation with the White House Office of Telecommunications Policy.

Among the projects proposed through the joint effort are the study of the effects of microwaves on isolated nerves, synaptic function and transmission of neural impulses to determine the interaction of microwaves with the function of neurons; EEG investigation in animals exposed to microwave radiation, to identify specific changes of bioelectric activity of animals exposed to different levels of microwave radiation; the study of the effects of microwaves on behavior of animals, their conditioned reflex activity; and on chemical, cytochemical and immunological properties of blood.

American studies of biological effects will go up to the 10 mW/cm^2 range while Soviet scientists will be experimenting below $1/2 \text{ mW/cm}^2$.

McRee expects to see some substantial data in the above areas within a year. From these studies, some light



Ed Aslan, principal research engineer at Narda Microwave Corp. uses the model 8300 Broadband Isotropic Radiation Monitor. This probe, developed by Aslan, was used by Dr. Arthur Guy during his visit to the Soviet Union.

may be shed on the current discrepancy that exists between the level of radiation exposure considered acceptable in the US, and the level accepted by the USSR. Presently, the maximum exposure level considered safe by American National Standards Institute (ANSI) and endorsed by the Occupational Safety and Health Administration (OSHA) is 10 mW/cm^2 averaged over 0.1-hour. This level is 1000 times greater than the accepted Soviet standard of $10 \mu\text{W/cm}^2$.

Other Studies

According to a proposal in the plan, the substantiating of data will allow more accurate setting of standards for the Soviet Union, and will assist in the setting of standards for the United States.

While the proposal outlines only preliminary studies, McRee is hopeful that eventual programs will cover genetic effects, effects on blood cells, immune responses, and permeability of the blood/brain barrier at various levels of exposure. He also foresees extensive examination of controlled populations exposed to long-term radiation, such as ships' crews in close contact with radar.

Concern has been expressed by American scientists about accepting previous experimentation done in the USSR. The main reason for this was lack of familiarity with measurement techniques and devices used by Soviet scientists. Dr. Arthur W. Guy, a major participant in this program from the Department of Rehabilitation Medicine at the University of Washington, made a trip last month to the Soviet Union. He took along an NBS probe, and

Narda Microwave's isotropic probe to verify several Soviet measurements. According to Dr. Guy, these comparisons proved quite close. However, McRee explains that the Russians have shown a definite interest in obtaining US-built probes for their monitoring. "Engineers in Leningrad," claims McRee, "were quite impressed with the Narda probe for measuring in the microwave range." He believes such interest could result in an eventual export agreement.

The Future

Says Joe Schindler, vice president of marketing at Narda, "The Russians have continually expressed interest in our equipment. But, at this point in time it is difficult to say just what the Russians are planning to do."

→ Margie Stenzler

Target Industries Named With Large EDP Potential

WALTHAM, MA — Eighteen major industries with an untapped EDP spending potential of at least \$200 million each have been tagged "target industries for computer services and minicomputers" by an International Data Corp. study.

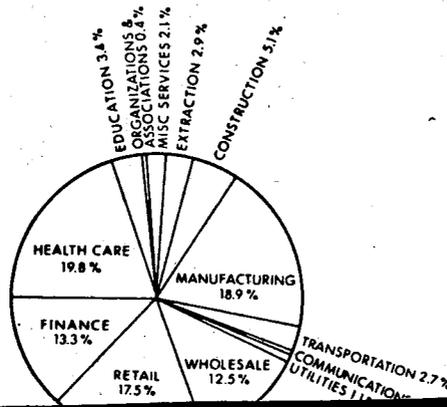
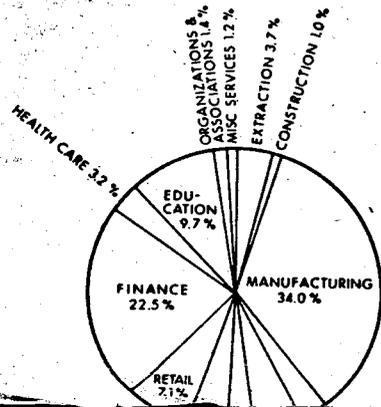
The top-ranking institutions are hospitals, banks, automotive dealers and grocery stores. Hospitals alone represent almost \$2.7 billion, 4.6 times the size of the next largest market, and only a few spend close to \$7 a day per patient — the rate of the most sophisticated EDP users. Banks, on the other hand, are a more thoroughly penetrated market, and some of the \$585 million remaining potential is probably already covered by 1974 EDP spending that will hook up correspondent banks. However, improvements in electronic-fund transfer systems

should increase the bank market significantly in the next few years.

The automotive industry's current spending has gone largely into in-house, general-purpose computers — a figure (\$551 million) which, the study feels, is understated because of the large amount of computer services revenues deriving from the industry. Yet, the researchers reckon this spending doesn't even put a dent in another \$551 million the auto industry still has in the kitty.

Grocery firms are getting caught up in the point-of-sale craze. Their \$447 million remaining potential stems largely from supermarket installations, according to the study data. Like the other market segments, the extent to which a supplier could expect to penetrate this market remains undefined.

INDUSTRY DISTRIBUTION OVERVIEW OF EDP SPENDING AND POTENTIAL



Sarnoff Bids RCA Farewell

NEW YORK — Robert W. Sarnoff has resigned as chairman and member of the board of directors of RCA Corp. effective December 31, 1975. The board has designated Anthony L. Conrad, president and chief operating officer of RCA, to become president and chief executive officer immediately.

Sarnoff has been president and chairman of RCA for the past decade.

He had previously spent 18 years with National Broadcasting Co., a wholly owned subsidiary of RCA, in a succession of executive posts, finally rising to chief executive officer.

Sarnoff has not elaborated on his decision to leave RCA, stating only that he intends to pursue interests of a personal nature.

Engineers In The News



Dr. Karl Hinrichs, holder of 15 patents in the electronics field, has been appointed vice president of engineering at Powertec, Inc. His expertise is expected to enhance Powertec's recent emphasis on high-technology areas such as switching power supplies and custom design. Hinrichs was formerly chief of engineering at Dressen-Barnes, Inc. and director of engineering at Lockheed Data Products Division.

Dr. Bruce E. Deal, manager of integrated circuits research and development at Fairchild Camera and Instrument Corp., has been awarded a Certificate of Merit from the Franklin Institute in Philadelphia for research leading to the "discovery and elucidation of the deleterious effects of alkali metal impurities in the silicon oxide layer of MOS devices, and for the development of contamination-free processing leading to the practical commercial production of stable MOS field-effect devices."



Harold M. Hart has been named vice president of engineering at Raytheon Company. He will be active in company-funded design and development, quality control, value engineering and engineering standards. Hart began at Raytheon in 1938 with the former Submarine Signal Company, which merged in Raytheon in 1946. Hart holds several patents on radar systems and equipment.