News and views

Geneva Conference

THE AEC has announced that the United States will build a research reactor of the swimming pool type for demonstration at the United Nations international conference in Geneva, Switzerland, August 8–20. The Commission has named George L. Weil, former assistant director of its reactor development division, as technical director for U. S. participation in the conference.

NBS, 1953-54: A Progress Report

WHILE the National Bureau of Standards' *Biennial Report* for the years 1953 and 1954, released in March, is primarily a review of that agency's activities during the past two years, it also serves as a record of the steps that have been taken to carry out the specific recommendations submitted on October 15, 1953, by the Ad Hoc Committee formed under the leadership of M. J. Kelly to evaluate the functions and operations of the Bureau in relation to the national need. The major recommendations contained in the report of the Kelly Committee were listed in the following manner:

1. Higher level of activity in the basic programs.
2. Modernization of facilities and increased space for basic programs.
3. Improvement of organization at the Associate Director level.
4. Transfer of weaponry projects to the Department of Defense.
5. Continued use of the Bureau by Department of Defense and Atomic Energy Commission for nonweaponry science and technical aid.
6. Continued and increased use of the Bureau by other agencies of Government in indicated areas of science and technology.
7. Decrease in repetitive test operations at the Bureau.
8. Division of primary responsibility for policy and procedure on commercial product tests between the Secretary of Commerce and the Director of the Bureau.
9. Increased support of standard samples program.
10. Advisory groups to the Director selected from membership in eight scientific and technical societies.

Apart from items 1, 2, and 9, the recommendations of the Kelly Committee seem to have been followed. Action suggested in item 3, for example, was taken early in 1954 when the Bureau announced organizational changes providing for four associate directors (for physics, chemistry, testing, and administration). A plan for the transfer of the Bureau's weaponry development work to the Department of Defense (item 4) was announced even before the release of the Kelly Committee report. The transfer, including about 40 percent of the NBS personnel and four major divisions, resulted in the creation by the Army Ordnance Corps of the Diamond Ordnance Fuze Laboratories, which continue to operate adjacent to the Bureau in Washington, and the creation of a new Naval Ordnance Laboratory by absorption of former NBS guided missile activities at Corona, California. A short while later the Institute for Numerical Analysis was transferred from the Bureau's Applied Mathematics Division to the University of California at Los Angeles.

That items 5 and 6 have been carried out is amply demonstrated throughout the *Biennial Report*, and particularly in that section dealing with the Bureau's cooperative activities. In one area alone, that of an information and testing service established to answer questions on the characteristics, performance, instructions, and availability of electron tubes, the Bureau received some 800 requests for advice from agencies of the Department of Defense, the Federal Trade Commission, the War Munitions Board, and the Office of International Trade. Mutual interests of the Atomic Energy Commission and the Bureau as indicated by AEC sponsored projects at NBS range from the preparation of some 40 sugars and related compounds, labeled with carbon-14 in specific positions in the molecule, to the large-scale AEC-NBS program of research and development in cryogenic engineering. In addition, the Bureau seems able and willing to perform every conceivable technical service for government agencies from developing fully automatic high-speed coin-weighing machines for the Department of the Treasury to advising the International Administration of the State Department as to likely sites for radio transmitters.

In keeping with items 7 and 8, the Bureau instituted a policy of restricting calibration services, as far as possible, to the calibration of basic standards. As usual, tests of products were made only at the request of other government agencies, except where the Bureau possessed facilities not available elsewhere, or in the rare instances where referee tests were required. Many requests for qualification and acceptance testing services were referred to commercial and college testing laboratories. In addition the Bureau entered into a "memorandum of understanding" with the General Services Administration, an agency having broad responsibilities for purchasing supplies and services required by the government and also having such related functions as specifications, inspection, and testing. The memorandum deals particularly with the assignment to the Bureau of responsibility for specifications for general test methods and with the conduct of qualification and acceptance testing.

As for the 10th recommendation of the Kelly Committee, the advisory group organization now includes twelve technical area advisory committees that provide

direct contact between the Bureau and the professional scientific organizations. Nine scientific and engineering groups, including the American Institute of Physics, have nominated advisory committees on physics, chemistry, mathematics, metallurgy, ceramics, and electrical, radio, civil, and mechanical engineering. In addition, the National Conference on Weights and Measures, the American Society for Testing Materials, and the American Standards Association have designated groups at the Bureau's request to advise in their areas of special interest.

ITEMS 1, 2, and 9 represent areas in which there has clearly been little or no progress in the direction indicated by the Kelly Committee for the simple reason that congressional appropriations for the Bureau's basic program have continued to fall far short of the minimum support called for by the Kelly Committee. In its report, the Committee reviewed the Bureau's basic program over a sixteen-year period beginning in 1938 in terms of man-years of effort and found that there had been a steady increase until 1950, after which there had been a decline. The Committee observed that the "shrinkage" in support of basic programs that began in 1950 . . . made it necessary to decrease the work level by almost 20 percent as measured by man-years of effort by 1953 and the funds provided for fiscal 1954 will make necessary a further reduction of at least 10 percent. . . . The Committee is convinced that a level well beyond that of 1950 is required but believes the level should be arrived at by a more extended study than that of this Committee."

The Kelly Committee's recommendation was that "the basic program effort be increased to the level of 1950 in two successive increments in fiscal years 1955 and 1956; also that the Bureau and the proposed advisory committees be prepared, in time for consideration in the 1957 budget requests, to recommend the amount of further expansion in basic programs that is required to meet the nation's needs."

During fiscal year 1953 the Bureau's direct appropriation amounted to $8.16 million. The figure was cut to $6.49 million in 1954 and to $6.25 million in 1955. The President, in his most recent budget message to Congress, has requested an NBS appropriation of $8 million for fiscal year 1956.

Item 9, the Kelly Committee's recommendation for increased support of the standard samples program, received considerable emphasis in the report as being an important and proper function for the Bureau, but one that had an urgent need of increased funds. The Bureau's *Biennial Report* noted that during 1953 and 1954 it still had not been possible for the Bureau to increase the numbers of standard samples or even to maintain its former position.

The following quotation, which might appropriately apply to the present state of the Bureau even though it was written four decades ago, is an excerpt from the *Annual Report* of the National Bureau of Standards for the fiscal year 1916. It clearly is no new experience for the Bureau to find its appropriations inadequate to meet all demands for its services.

> "For the past three years there has been practically no increase in the statutory positions of the scientific staff. In the meantime, the calls upon the Bureau in connection with the scientific work of the country, and especially the industries, have grown by leaps and bounds. The Bureau is not only neglecting much work that should be done, but has been compelled to do many things in a temporary and superficial manner. This has been especially true during the past two years; nevertheless, every effort has been made to utilize the resources of the Bureau to the greatest possible extent in assisting the public to meet these new conditions. The demand on the part of the industries for accurate and reliable scientific data has never been as great or as important as at present. This demand is a rapidly increasing one. A conservative estimate for the additional assistance needed has been prepared and will be submitted. This estimate has been based solely upon the most urgent and pressing needs of the Bureau and not for new fields of work. It is hoped that Congress will recognize the importance of this increase and provide accordingly.
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> "Never has the demand for scientific and technically trained men been as great as at present. This has resulted in the loss of many well-trained men in the Bureau's staff. The time has come when some of the salaries paid such experts must be increased or their services dispensed with. This cannot be done without a loss in quality and the deterioration of the high standard of the Bureau's work."

NBS Urged to Build New Computer

AT its meeting on February 3rd, the Advisory Committee for the National Bureau of Standards Applied Mathematics Division considered proposals of the Bureau for new computing equipment, and recommended that the Bureau go ahead with plans for the construction of a new general-purpose computer. The present machine, the SEAC, is already fully occupied with work for the Bureau and for other government agencies. In the two years required for machine construction, the demand for additional computation will very probably be more than SEAC can handle, so action on the construction of a new machine should start soon. The Committee also discussed the recommendations of the Conference on Mathematical Tables, held at MIT last September. One recommendation of the Conference was that the Bureau collect, edit, and publish a "tables for the occasional computer" (which might be described as an enlarged Jahnke-Emde). The Bureau is requesting financial support for the National Science Foundation to perform this work. The Advisory Committee recommended that the work be carried out and hoped that the Science Foundation would be able to support it. The membership of the Applied Mathematics Advisory Committee is now: Dean Mina Rees (chairman), Mark Kac, Philip M. Morse, A. H. Taub, and E. U. Condon (the latter having replaced Edward Teller on the Committee).