

RESEARCH FACILITIES AND PROGRAMS

The 200-BeV machine

The Atomic Energy Commission announced last month that it has received 110 proposals from 45 states recommending some 200 different sites for the location of the projected 200-BeV proton accelerator. Of the Union's fifty states, only Alaska, Delaware, Hawaii, New Hampshire, and Vermont were not listed among those eager to claim the \$280-million machine and the proposed national high-energy physics laboratory to be built around it.

Several of the site proposals were expected, particularly those from areas already populated by significant numbers of high-energy physicists. In California, an inactive military base (Camp Parks, a few miles from the Berkeley campus) appeared especially appropriate to its proponents since it had been used as the primary site example in the preliminary design study for the 200-BeV machine carried out for the AEC by the Lawrence Radiation Laboratory. In the East, Brookhaven National Laboratory, long a gathering place for particle physicists lured to Long Island by the attractions of the existing 30-BeV alternating gradient synchrotron, was proposed as a logical site for the new accelerator by Associated Universities, Inc. From the midwestern states, where much keen anguish was felt last year when plans for the 12.5 BeV high-intensity MURA accelerator was dropped by the AEC, some two dozen sites for the 200-BeV machine have been offered in the hope that one might be chosen. Farther west, Colorado would like to build the machine on the bombing range of the Lowry Air Force Base; an Indian community council in Arizona would like to have it on the Gila River Indian Reservation; the Governor of Idaho would add it to the National Reactor Testing Station; Nevadans want it near Las Vegas; San Diego wants it for San Diego; a nuclear industrial council in southeastern Washington wants it at Hanford. Nearly half of the proposals were for sites in the southern states.

In releasing the list of proposed sites, the AEC said that its research staff had noted the "high caliber of the preliminary site proposals received and the wide geographic scope they represent." The Commission's Division of Research, it was added, is screening the proposals to narrow them down to a manageable number. Those chosen for further evaluation will be considered by the Committee on Site Selection which was organized by the National Academy of Sciences in June at the request of the AEC. The Committee is under the chairmanship of E. R. Piore, vice president and chief scientist of IBM. Its other members include Robert F. Bacher (California Institute of Technology), Harvey Brooks (Harvard), Val L. Fitch (Princeton), William B. Fretter (University of California, Berkeley), William F. Fry (University of Wisconsin), J. W. Gardner (Carnegie Corp.), Edwin L. Goldwasser (University of Illinois), Kenneth Green (Brookhaven), C. H. Greenewalt (duPont), and Herbert E. Longenecker (Tulane). The Piore Committee is charged with undertaking site evaluation studies which are to be completed by the end of the year. Final site selection will be made by the AEC.

As envisaged by the Commission, scientists would have a strong voice in policy formulation for the national laboratory, and responsibility for its operation would be given to a representative group of universities active in high-energy research. As a result of a meeting of university presidents at the National Academy of Sciences in June, such a group has been incorporated under the name Universities Research Association, Inc., and 34 universities have been invited to join. Its services in managing the facility will be offered to the government when the accelerator is authorized.

New telescope

The University of Chicago has announced that it will construct a 40-inch reflecting telescope at its Yerkes

Observatory in Williams Bay, Wis. Costs will be covered by a \$176 000 grant from the National Science Foundation. One of the stated uses for the new instrument will be the observation of variable stars and double stars. Studies of this type, to be satisfactory, must be continued for long periods of time, which is usually not possible at the few larger instruments in the world.

Cambridge accelerator blast

A large explosion followed by intense fire in the early morning hours of July 5 wrecked the experimental floor of the Harvard-MIT Electron Accelerator and injured eight persons, one of whom has since died. So far, the origin and character of the original explosion remain unknown.

According to M. Stanley Livingston, director of the Harvard-MIT center, the explosion and fire, which caused an estimated \$1 million damage, occurred while a recently completed 40-inch bubble chamber was being filled for the first time with liquid hydrogen. Several days after the event he emphasized that the primary cause had not yet been ascertained, and that the extent of involvement of the bubble-chamber hydrogen had not been established.

The blast wrecked the roof of the building and left it in such a dangerous condition that it was Sunday, July 11, before even a small crew of investigators could enter the experimental hall and begin the long, slow job of finding out what happened.

The bubble chamber itself (which has a capacity of 500 liters) did not explode. Professor Livingston said it was about 95 percent full when the explosion took place, at which time the liquid hydrogen in the chamber was dumped into a large, closed container where it evaporated and then vented up an exhaust stack and burned safely at the top—as it was supposed to in the event of an accident. A 25-30-foot blue flame burned above the stack for ten or fifteen minutes.