

3. History

The history of the atomic energy activities of the United States is the story of the successful welding of education and research activities to produce an entirely new technology and a new industry. The complete story of the role of education in the total AEC activity is presented in the book "Education and the Atom," by Dr. Glenn T. Seaborg and Daniel M. Wilkes. The material presented below is restricted to the history of the organized effort of the AEC to aid college and university nuclear education programs.

The Manhattan Engineer District of the U.S. Army Corps of Engineers was established to undertake a massive production and research effort with a single military goal. An entire cadre of scientists and engineers, trained through the normal chain of academic enrollment followed by employment experience, had to be recruited by contractors working for the Manhattan District and then trained anew for their assignments in an entirely new field of nuclear technology. This was an effort conducted by many contractors outside the normal educational process of higher education. It was accomplished under stringent security measures, so that neither the technical manpower nor the developing technology could be made available to educational institutions.

The Atomic Energy Commission was established by the Atomic Energy Act of 1946, but military uses of atomic energy still predominated. Universities were encouraged to participate in Commission activities, mainly through the national laboratories initiated by the Manhattan Engineer District and a few other university centers. Courses on college campuses with any meaningful incorporation of the developing technology were few and far between. One of the main sources of formal course work was the AEC-supported, classified, Oak Ridge School of Reactor Technology (ORSORT) which provided training for AEC and contractor personnel and an occasional university faculty member.

In 1948, the AEC started a predoctoral and postdoctoral fellowship program in the life and physical sciences upon the recommendation of the National Academy of Sciences. This first large-scale Federal fellowship effort provided fellowships to 962 young scientists and physicians before it was terminated in 1952 with the establishment of a more comprehensive fellowship program by the National Science Foundation. Special fellowships in industrial medicine, health physics and industrial hygiene were initiated in 1950, 1951, and 1952 respectively.

The growing realization of the importance of peaceful uses of atomic energy led to the Atomic Energy Act of 1954, and subsequent amendments. It was immediately apparent that the growth of a private nuclear industry would be dependent upon the extent to which the Nation's colleges and universities could assume an active role in research participation and in the graduation of engineers and scientists well prepared for a variety of roles in nuclear research and development. To accomplish this task, faculty had to be developed, campus facilities established, graduate students supported, and a wide variety of mechanisms devised to make certain that the educational community kept abreast of nuclear technology developments.