

5. Radiation genetics. Current knowledge of the effects of radiation genetics is meager. Until research brings to light additional facts, health authorities should adopt a policy of adherence to the established rules of radiation safety.

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THE URANIUM PILE. TERENCE PRICE, *Atomics* 1:167 (June) 1950.

In continuation of a previous discussion (*Atomics* 1:99-106, 1950) the author deals with the choice of coolants for uranium piles, the health hazards to the personnel operating a pile, and the design of protective shields. The by-products of uranium piles are described, and the working lifetime of a pile is assessed. Twenty references are included.

NUCLEAR SC. ABST.

INDUSTRIAL TOLERANCE CONFERENCE: VALIDITY AND USEFULNESS OF CURRENTLY ACCEPTED "TOLERANCE DOSE" FOR X AND Γ RADIATION. Atomic Energy Commission Document 2832, 1945.

The currently accepted human tolerance dosages for x and γ radiation is 0.1 r./day for an unlimited length of exposure. Papers were presented on the following subjects: chronic experiments correlating near-tolerance dosages with survival, blood changes, aging, genetic mutations and skin changes; the mechanism of radiation effects; the human tolerance dose.

ADAPTATION OF NUCLEAR SC. ABST.

CONTROL OF RADIATION HAZARDS IN THE ATOMIC ENERGY PROGRAM. United States Atomic Energy Commission, pages 230. Price \$0.55. Washington, D. C., United States Government Printing Office, 1950.

This is a comprehensive, detailed report of the radiation protection program and activities throughout the Atomic Energy Commission production and research installations. It is divided into two parts and 10 appendixes. Part I consists of nine sections as follows:

1. Radiation Safety. This is an introductory section which serves to outline the sections to follow. It deals with the magnitude of the radiation program, including the types and sources of radiation, the ways in which they cause damage, the principles of protection, the permissible limits of exposure, safety records, and costs.

2. Radiation Safety in Production Operations. The various operations are discussed in some detail. These include processing of raw material, nuclear reactors, chemical separation, plutonium metallurgy, and gaseous diffusion. The hazards incident to each are enumerated as well as control measures. Health physics activities are described.

3. Safe Handling of Radioisotopes. This describes the AEC isotope program, including manufacture, handling, shipping, and protective measures.

4. Control of Radiation in Research and Development. Radiation protection in research activities is a difficult task because of new problems encountered and the transitory nature of the operation. This section discusses the special protective facilities and procedures used, including new developments in remote control engineering.

5. Environmental Safeguards. Of special interest to public health workers is this section dealing with potential environmental hazards created by the atomic energy industry. The industrial wastes are classified as solid, liquid, and gaseous. Techniques for handling these wastes are described.

6. Control of Hazards at Weapons Tests. Testing of atomic weapons involves exposures to large quantities of all types of ionizing radiations. Plans and operations of the Rasafe group at operations Sandstone, Eniwetok, Atoll 1948 are discussed. As far as is known this represents the most informative description of this hitherto classified operation and should be of interest and assistance to civil defense personnel.

7. The AEC Program for Radiation Control. The history and development of health physics as a profession is traced back to the construction of the first nuclear reactor at the University of Chicago in 1942. The administration, policies, and activities of the health physics program are detailed.