

- 785 Fine Water Spray as a Method for Improving Atmospheric Conditions in Heated Spaces.
I. M. Erman. Z. arztl. Fortbild. 50, 950-955 (Nov. 15, 1956). German.

This paper describes the results of investigations to support the author's opinion that moistening the air in a heated space by means of a water spray can have a distinctly better effect on the workers than has hitherto been claimed by other investigators. In a series of experiments, the results of which are described and tabulated, it was shown that a fine spray of water (droplet size should not exceed 50-60 microns in diameter) introduced into a room heated to 40-42° C (104-108° F) caused a diminution of the temperature of the skin of forehead and chest, lowering of body temperature, lowering of the pulse and respiration rates, and increase in the pulmonary ventilation of the individuals under test. The workers also stated that the air was made fresher and that breathing became easier and more comfortable. Water spraying is also of value in lowering the temperature of the surroundings and in laying dust. The subject is discussed at some length with regard to circumstances in which the water spray may or may not have hygienic value.

-- Cond. from Bull. Hyg.

RADIOACTIVITY AND X-RADIATION

- 786 Sources of Information on Nuclear Energy. Data Sheet D-46.
National Safety Council, 425 North Michigan Ave., Chicago 11, Ill.
Natl. Safety News 75, 40, 42 (May 1957).

This Data Sheet comprises a list of books, pamphlets, bulletins, and articles dealing with safety aspects of nuclear energy.

- 787 Chemistry and the Peaceful Uses of the Atom. W. F. Libby.
Chem. & Eng. News 35, 14-17 (May 6, 1957).

The chemist and chemical engineer will have active roles in the development of peaceful uses of atomic energy, with regard both to economy and to safety. The principal areas where the chemist or chemical engineer may aid in reducing reactor hazards are probably in the reactor core itself and in methods for reducing the fission product hazard in the cloud before it leaves the containment sphere. Specific problems mentioned include producing radioactive strontium in an insoluble form and the safe use of plutonium. Other subjects discussed are costs of atomic power and the important part isotopes already play in medicine.

- 788 The Design of Reactor Systems for Safety. C. R. McCullough.
Mech. Eng. 79, 251, 252 (Mar. 1957).

The necessity of safety considerations at all stages in the design of a reactor system is emphasized. The potential hazard to the public is made up of fission-product inventory, probability of accident, and its probable severity in some complicated reaction. If the job is done properly, the hazard to the public is well within the acceptable limit. The potentiality of accidents is largely dependent upon the skill with which the design and testing work are done. The two steps to the problem of reactor safety are: keeping the flux level of the reactor under control at all times, and maintaining the cooling in reactor at all times. At this stage of atomic energy the matter of judging the safety of an atomic-energy power facility is one of subjective judgment based on the available data. There are no generally applicable standards. In the design of reactors today we are probably imposing restrictions in many cases where they are really unnecessary, but they must be imposed at the present time, because of our ignorance as to their effect on the safe operation of the machine.