

US DOE ARCHIVES
326 U.S. ATOMIC ENERGY
COMMISSION

720223

Collection *DBM* UNION CARBIDE NUCLEAR COMPANY
A DIVISION OF UNION CARBIDE AND CARBON CORPORATION
Box *3308*
UCC
Address *33* POST OFFICE BOX P
OAK RIDGE, TENNESSEE

May 9, 1957

U. S. Atomic Energy Commission
Post Office Box E
Oak Ridge, Tennessee

986

Attention: Mr. S. R. Sapirie

Gentlemen:

Subject: X-Ray Exposure Records

Your letter of January 16, 1957 regarding the above subject suggested that a feasibility study of Carbide medical exposure records be undertaken to obtain an average X-ray exposure dose to the skin and gonads. In addition, it was suggested that a more elaborate study be undertaken involving X-ray records at the Oak Ridge Community Hospital and that some of our experienced personnel might assist.

Laboratory personnel have determined the average skin dose and gonad dose received from typical diagnostic X-rays administered at eight different installations. Because complete records of diagnostic X-ray exposures are maintained at the four Carbide facilities, a perusal of these records for the determination of an average dose for our personnel could be undertaken at any time.

We would like to call your attention to a proposal made to the International Committee on Radiation Protection by K. Z. Morgan of this Laboratory. Dr. Morgan is Commission Leader of Task III which has to do with sampling procedures necessary to ascertain the gonad dose received by the population as a whole from medical sources of ionizing radiation. The proposal as prepared by Dr. Morgan was adopted by the ICRP during its meeting the first two weeks of May this year in Geneva, Switzerland, and should supercede any less global proposals such as the investigation of the Oak Ridge Community Hospital data.

The method chosen for the study involves a selection at random of a representative sample of medical men who are responsible for administering exposures, and medical institutions in which most of the exposures were given. In each case, the representative sample is to be studied by letter questionnaire and/or personal contact, and instruments will be furnished as an adjunct to the survey.

G 4451

Encl # 1³

1149637

MAY 20 1957.

Mr. S. R. Sapirie

2.

May 10, 1957

The method recommended for the primary survey is personal contact of the surveyor with the medical institution, either with or without the furnishing of instruments. Several types of presurveys will be conducted on a pilot scale before undertaking the primary survey in order to permit a better selection of the sample and to make certain that all of the data needed in the final returns are collected with the required accuracy in the most economical way possible. In this connection, it should be pointed out that it is our intent to include the Oak Ridge Community Hospital in the pilot surveys, since its data are rather better than those of the average medical institution around the world.

Consideration has been given in preparing this plan to establishing a study system that has sufficient flexibility to permit its extension to accumulate information on the relationship between dose from ionizing radiation and somatic damage, as well as genetic damage. We attach herewith a copy of the preliminary report of Task III for the International Committee on Radiation Protection which gives the detailed proposal which has now been adopted in order to solve the problems to which your letter alludes.

If you have any further questions, please feel free to call upon us.

Yours very truly,

UNION CARBIDE NUCLEAR COMPANY

Clark E. Center

Clark E. Center
Vice President

CEC:RAC:lc

Enclosure

cc: R. A. Charpie (2)
L. B. Emlet (4)
T. E. Lane
T. A. Lincoln
K. Z. Morgan
J. A. Swartout (2)

1149638

DOE ARCHIVES