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707348

RDWT-1

26 February 1946.

Subject: Present Research Program.

MEMORANDUM to the District Engineer, Manhattan District, Oak Ridge, Tennessee. (Attn: Col. Peterson)

1. Research in various phases of Manhattan Engineer District Medical Section has progressed in the following institutions: University of Chicago, University of Rochester, University of California, Clinton Laboratories Oak Ridge, Tenn., Biological Foundation of the Franklin Institute, Newark, Delaware, Cancer Research Laboratory of Columbia University and University of Washington at Seattle.
2. Research studies include hematologic, histologic, biochemical, biophysical, toxicologic and pathologic methods of investigation.
3. University of Chicago. *Acute and chronic studies on experimental animals (rats, mice, guinea pigs, dogs, etc.) of the injection and ingestion of uranium compounds.
*Acute and chronic studies of the effects of radium, plutonium, fission products, beta and gamma rays on similar animals. Research on radiation instruments required by biologic investigation and health program.
4. University of Rochester. *Acute and chronic studies on animals of the effects of beta and gamma radiation (250,000 - 1 million volts) with the view to fixing more definitely radiation tolerance levels.
Toxicity studies with similar experiments on the effects of uranium compounds, radium, polonium, and fluorocarbons. Special study on radiation instruments required by biologic investigation.
5. Cancer Research Laboratory of Columbia University. Studies on the effects of fast neutrons on mice at different dose levels.
Research on special instruments for estimating neutron intensity primarily for biologic purposes.

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6. Biological Foundation of the Franklin Institute, Newark, Delaware. Studies on the effects of fast neutrons at different dose levels on dogs.

7. University of California at Berkeley.
*Acute and chronic studies in experimental animals of the distribution and metabolism of fissionable materials, fission products and heavy isotopes of uranium, plutonium, neptunium, etc.
Studies of decontamination of plutonium exposures.

8. University of Washington at Seattle.
Studies on possible pollution of the Columbia River by fission products and the resultant effects on fish (primarily salmon)
Studies of external radiation effects on fish including acute lethal effects and chronic studies involving growth, reproduction and mortality rates.

9. Clinton Laboratories, Oak Ridge, Tenn.
Studies of fast neutron effects on animals. Studies of beta ray effects on animals. Special instrument and industrial research particularly as applied to biologic and health physics problems.

10. Criteria for these studies and their evaluation are obtained by the investigation of biologic effects on the metabolism of the various systems of the animal organisms.

*Acute studies are those of less than 30 day duration.
Chronic studies are those of 30 day - 18 mo. duration.

B. N. BRUNDAGE,
Captain, M.C.

6 additional copies made 3/28/46 for distribution at meeting of Med. Advisory Committee in New York City, 9/5/46.

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1021001

26 February 1946.

Subject: Future Medical Research Program.

MEMORANDUM to Brigadier General K. D. Nichols, District Engineer.

1. Biological research conducted under the auspices of the Manhattan District prior to the cessation of hostilities was primarily of a preliminary nature in order to provide immediate information on tolerances involving various types of radiation from external sources and from inhaled, injected and ingested radio-active materials. Tolerances to various chemical compounds similarly introduced into the body were also studied. In order to establish unequivocal and enduring tolerance levels, however, further work will be required which will be primarily long-term in character. Repetition in some categories of research, because of their critical nature, will be necessary.

2. Colonel Warren has pointed out that much of the data already collected is proving valuable from a medical legal point of view. It is anticipated that further research will also serve in this manner.

3. It appears now, that medical research on fissionable and other materials required in atomic energy, and not previously investigated, will need future study in much the same manner as has been done with uranium and plutonium.

4. In general, it appears necessary that a research program be continued and should be conducted under contract with various universities and medical Research Centers. The biological program should be modified to a slower pace, and fewer aspects of the biological investigations should be conducted simultaneously. The reduced rate and number of projects will provide better continuity and more secure results.

HYMER L. FRIEDEL,
Lt. Col., Medical Corps,
Exec. Off., Med. Sect.

10 copies made 8/28/46 for distribution at Med. Advisory Committee Mtg.
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