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STATUS VERIFIED UNCLASSIFIED
 Dennis W. Murphy
 Date 9/14/85
 DATE 9/14/85

Dr. Shields Warren
 Division of Biology & Medicine
 US Atomic Energy Commission
 Washington 25, D.C.

September 21, 1949

J. H. Schlemmer

Dear Dr. Warren:

Subject: HEALTH RECORD -

A most cooperative reply to my letter to Dr. N.E. Bradbury (July 7, 1949) on the above topic has just been received from Dr. Wright Langham. This letter indicates that _____ at one time had a urinary excretion rate of about 44 dis/min/day, and was removed from the recovery operation (apparently in Spring, 1945). The elimination rate was about 15 dis/min/day one year later.

Dr. Langham estimated that the skeletal burden at the principal exposure time was about 2 μ g; he suggests that inhalation of plutonium compounds occurred, and that the total burden may have been slowly supplemented. There seems no occasion to force a closer fit between the Los Alamos estimate of 2 μ g and the Hanford estimate of 3 μ g. The revised Hanford estimate is 3.5 μ g, based on Spring, 1945, as the relevant exposure time. The agreement is already close in view of the great extrapolation of Langham's formula involved in our measurement.

It is our intention to keep _____ away from possible plutonium exposure for perhaps 6 months. In this time we shall be able to find whether the elimination rate is sensibly changing. Also we have a perfect chance to test for diurnal variations in rate, which may affect our standard sample - collection procedure. The Medical Division plans to use the Shubert zirconium salt treatment to determine whether the current elimination rate of plutonium can be substantially increased. It is appreciated in this attempt that an increase in elimination rate by a factor of 100 would still contribute little to the reduction of the employee's skeletal burden. Your comments on other procedures that could gain scientific information, without detriment to _____ would be appreciated.

_____ has been fully advised of the facts as currently interpreted. He is highly cooperative in measures to use him as an experimental emitter of plutonium, but is unwilling to offer a bone for analysis.

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Sciencelb 3/31/94
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He has one legitimate worry about which both Dr. Norwood and I would like your recommendation, - namely, should he be allowed to continue in

- (a) an occupation with some risk of additional exposure to plutonium
- (b) an occupation with risk of exposure to external radiation only
- (c) an occupation with risk of exposure to external radiation and internal deposition of beta-emitters.

These points seemed quite proper to me, as affecting the potential career of a young man whose professional work has been virtually all in the atomic energy field. considered the currently proposed delay of about 6 months to be reasonable. However, the staffs of both the Medical and Health Instrument Divisions feel that an earlier decision would be desirable, and solicit your advice as soon as the facts can be analyzed by you.

The Medical Division is transmitting to you separately a copy of the employee's medical record at Hanford.

Very truly yours,

HM Parker

Manager
HEALTH INSTRUMENT DIVISIONS

HM Parker:swc

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