

H.H.F
Test is going
on today - 9/13/65
NB



Idragies with
the test

RECEIVED	
SEP 13 1965	
Idaho Falls, Idaho	
September 13 1965	
ROUTE	INITIALS
2:00 PM	

RECEIVED	
M. H. BARTZ	
SEP 8 1965	
VJ	
Iodine Skin Absorption	
Per 60-65A	

R

INTER-OFFICE CORRESPONDENCE / SUBJECT:

M. H. Bartz
CF-607

726829

Reference is made to the attached memo dated August 23, 1965 addressed to you regarding participation by Phillips personnel in the proposed iodine skin absorption test. As Mr. McCaslin has stated, the use of human volunteers raises a number of policy, medical, and legal questions; especially when reviewed in the light of adverse public reaction to human experiments which followed the disclosures at the Nuremburg trials of World War II experimentations. Some of the same types of problems and objections can be raised irrespective of the fact that the experiment exposures to participating individuals will undoubtedly be tightly controlled and restricted to extremely low levels.

Although it is realized that potential problems in the areas of medicine, public relations, and administration may outweigh the apparent advantages of Company participation in the proposed experiments it is my opinion, from the legal viewpoint only, that the proposed experiment to be conducted jointly by ID and Phillips is acceptable and defensible provided safeguards similar to the following are observed:

1. The experiments will be under close and competent medical supervision, presumably of Dr. George Voelz.
2. An objective and knowledgeable medical opinion, such as that of local radiologists, finds that the experiment would produce desirable and useful medical and health-physics information.
3. Dr. Voelz, or his alternate, will address a letter to each participating employee explaining the nature of the experiment, the manner in which it will be conducted, and the degree of potential hazard, if any, involved. Such a letter would provide for a statement by each volunteer to the effect that he has read the statement, understands it, and agrees voluntarily to accept whatever risk is involved in his participation. It should be made clear that the participation will be within the scope of each volunteer's employment.

I shall be glad to discuss these problems further at your convenience.

HHFerguson:tc

- cc: J. P. Lyon
L. L. Leedy
J. W. McCaslin
O. L. Cordes
H. H. Ferguson - 2

REPOSITORY INEL

COLLECTION OFFICE OF CHIEF COUNSEL SUBJECT FILES
23399, UT6B CFA 674E

BOX No. FILE: SAFETY-16 IODINE RADIATION EXPERIMENTS

FOLDER IODINE SKIN ABSORPTION 60-65A

1185690

Idaho Falls, Idaho
August 23, 1965

RECEIVED
BARTZ
AUG 27 1965

Iodine Skin Absorption
McC-115-65A

Mr. M. H. Bartz
CF-607

Attached is a proposal from O. L. Cordes for us to participate in collecting data from an experimental release of methyl iodine-131. ID Health and Safety plans this experiment in the CERT series for about the first full week in September, 1965.

Some added explanation is in order. Ormand's proposal for six Phillips human volunteers to measure skin absorption of methyl iodide is to be coordinated with a similar number of ID human volunteers who will inhale (and absorb) the same atmosphere for the same length of time. The intent, of course, will be to determine the total thyroid exposure and the fraction resulting from each of inhalation and absorption.

We may, at the same time, place six more volunteers in the same atmosphere. These last six will have both respiratory and absorption protection so that we may test the effectiveness of our equipment.

These measurements are part of a research project we proposed to ID about a year ago. On several occasions we have detected thyroid exposures to men who seemed to have been well protected from inhalation doses. We have suspected, without proof, that these exposures resulted primarily from skin absorption. Our proposal to ID was to prove or disprove this theory.

The data will be valuable not only to health physics in general but also directly to several of our projects. LOFT, for example, is likely to involve re-entry into atmospheres containing radio-iodine. The results of the proposed tests would have a significant influence on the protective devices required for such re-entry. Similar situations may well occur in other scheduled projects.

The results should also be applicable to accident preparedness and follow-up. Knowledge of the rate of absorption through the skin of various chemical forms of radio-iodine would be very valuable in the defense and handling of accident exposure victims. Of course, this proposed experiment could yield data only in regard to the particular chemical form of iodine and the specific conditions. It would, however,

1185691

M. H. Bartz
File: McC-115-65A
August 23, 1965
Page 2

be a significant start and could well assist in the building of a good reputation in the research aspects of health physics.

There are some new and unusual aspects of the proposal. The use of human volunteers is not routine and should be considered carefully. On the other hand, they have been used in radiation research, and even more extensively in other toxicological experiments. ID's human volunteers will certainly receive a greater exposure than ours, so that there should be no difficulty in obtaining AEC approval (unless ID is also forced to cancel its plans). The estimated thyroid exposure for the inhalation volunteers is 30 mrem. This is one-twelfth (1/12) of one day's exposure on the basis of our administrative controls. Absorption exposure is sure to be less. An equivalent whole body exposure, then, would be less than 5 mrem.

The proposal seems well based. I recommend we support it. We should obtain the approval of our Medical Department and of our legal counsel as soon as possible in order to proceed with plans and preparations.

Very truly yours,

JWMcCaslin:as

Attachment

cc: Mr. H. Bartz
O. L. Cordes
J. W. McCaslin - 2

ORIGINAL SIGNED BY
J. W. McCASLIN

1185692



Idaho Falls, Idaho
August 23, 1965

RECEIVED
M. H. BARTZ
AUG 23 1965
<i>WZ</i>

INTER-OFFICE CORRESPONDENCE / SUBJECT:

Iodine Skin Absorption
McC-115-65A

Mr. M. H. Bartz
CF-607

*Why not ask ID to supply 12 men and do the experiment for us?
WB*

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*See A 4.
S. Smith*

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M. H. Bartz
File: McC-115-65A
August 23, 1965
Page 2

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Very truly yours,

JWMcCasin:as



Attachment

cc: M. H. Bartz
O. L. Cordes
J. W. McCasin - 2

1185694

J.W.Mc 8/17



August 18, 1965

INTER-OFFICE CORRESPONDENCE / SUBJECT:

Radioiodine Test
Cord-42-65A

To: J. W. McCaslin

From: O. L. Cordes:jmk/PER *[Signature]*

The AEC Health and Safety Division is planning another test in their series of radioiodine releases in connection with the CERT tests. This next test will be a release of 10 curies of methyl iodine-131.

With your concurrence, we would like to participate in the release experiment in two ways: (1) We would like to place a number of our fission product and radioiodine samplers in the released cloud to check their efficiency for the elusive methyl iodine, and (2) We would like to place six human volunteers in the downwind area of the iodine release to check if iodine is absorbed through human skin. These six volunteers would be dressed in Scott air paks.

The volunteers for this experiment will be screened such that none have a history of thyroid disease or iodine exposure which might affect the results of the test. Whole body counts will be performed prior to the exposure to determine the background level for each individual.

The inhalation dose to the thyroid for the test position has been estimated to be on the order of 30 mrem. The skin penetration dose is not expected to exceed this value. The exposure time will be on the order of 30 minutes.

The six volunteers can be furnished from the TAN area. Each volunteer will wear a Scott type air pak and sleeveless or topless Anti-C clothing depending on the existing weather conditions.

Following the exposure, the volunteer will remove the Anti-C clothing prior to removing the breathing apparatus. This will prevent the inhalation of any material which might adhere to the clothing. Showers will be taken to remove skin contamination, and each volunteer will be recounted in the whole body counter.

The count taken after exposure should show the presence of any up-take through the skin. Data from this test will be compared with tests conducted by the AEC on personnel without breathing protection. Also, future tests with elemental radioiodine will furnish comparison data.

cc: J. F. Sommers
O. L. Cordes
P. E. Rhuter
File

1185695