

DISPOSITION FORM

SECURITY CLASSIFICATION (If any)

FILE NO.

CMIRD-ND-NE

SUBJECT

Radioisotope Spill in Bldg. 716, Lab. 7, 15 Nov. 61

TO: Nuclear Physics Office
NDLFROM: W. R. VanAntwerp
Chief, Solid State
Physics Branch
NDL, Bldg. 716

DATE: 17 Nov 61

COMMENT NO. 1

VanAntwerp/226/alr

The pertinent facts related to the subject spill are as follows:

- a. The spill occurred in Lab 7, Bldg. 716, Solid State Physics Branch, Nuclear Physics Division, Nuclear Defense Lab., Army Chemical Center, Maryland.
- b. The Radiological Test Program Number assigned to this project is 2132.
- c. It is not known that any overexposure occurred. Maximal exposure was received by Lt. M. P. Alunni.
- d. The source of ionizing radiation was ^{226}Ra . The source material was evaporated on iron oxide in the physical form of a fine powder. The original (total) amount of material was 2 millicuries, or 2 milligram radium equivalent or approximately 4 micrograms ^{226}Ra .
- e. The source material was received (in an unsealed container; from the Radio-Isotope Centre, England) in a very small vial. The spill occurred in attempting to transfer the source from this vial to a stainless steel cup, 1.5 inch diameter and 1 inch deep. It is estimated that 50% of the material is now in the stainless steel cup, 40% still in the vial, and 10% was spilled.
- f. Although this was a "one-shot" affair and no repeat is planned, additional care in both sample handling and monitoring would be indicated in any future operation of a similar nature.
- g. A statement by Lt. M. P. Alunni, who attempted the source transfer, is attached.

W. R. Van Antwerp
Chief, Solid State Physics Br.

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DD FORM 96

REPLACES NWD FORM 84, 1 OCT 58, WHICH MAY BE USED.

U. S. GOVERNMENT PRINTING OFFICE: 1959 O - 28494

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Accession #: 67A-4511

Box #: 43

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TO: Health Physics Office

FROM: Lt. M. P. Alunni

This report contains the account of the happenings which occurred in the radiation spillage accident in Lab 7 at Nuclear Defense Laboratory, Army Chemical Center, Maryland on 14 November 1961.

At approximately 1100 hours I phoned the Health Physics Office to ask for a monitor to assist in the experiment I was conducting in Lab 7. About five (5) minutes later I met the monitor in Lab 5 where the source was stored originally. The monitor was going to carry the can which contained the source to Lab 7. I had already taken the remainder of the equipment to be used in the experiment. We proceeded to Lab 7 where, upon arrival, I found the hood operating in a hood which had been running continuously. At this point I told the monitor in brief what I intended to do. He understood and we proceeded. First, I removed the source which was a ²²⁵Rn source from the can. I next removed the source bottle from its container. I would like to mention here, I had already taken the precaution to put on surgical gloves. I proceeded to open the source bottle and place its top on two layers of paper towels placed on the hood. The source was transferred by means of a pipette some water from a beaker to the source bottle. The reason I did this was because the source (powder form) was clinging to the sides of its container and I wanted to remove it from the bottle. I then replaced the top and shook the bottle for obvious reasons and proceeded to place the source in a small stainless steel cup which was placed in a glass dish about 8 or 9 times its size to prevent the source from contaminating the paper towels. I performed this action several times. In between these processes I returned to Lab 5 for several lead bricks to place over the source in the stainless steel cup. I continued to perform the above procedure (transfer of water by pipette) and at some point a drop of sample fell to a point on a stainless steel table in front of the hood. At this point I moved several lead bricks and overturned the beaker containing the water onto the paper towels. I immediately picked up the beaker and placed my towels on the bottom of the hood. I thought there might be contamination on the bottom of the hood and asked the monitor to check. He found no contamination since the water was confined mostly to the paper towels. I decided at this point to stop the experiment and attempt to decontaminate the spot on the stainless steel table. I went to Lab 5 for cleaning powder and some paper towels and returned to Lab 7 to decontaminate the

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... "radiation" sign to place over the point. I recommended
go to lunch and continue after lunch. I asked the monitor to check my
hands for contamination. He said I had some on my hands and I went to lab
to wash my hands in hot water. I returned and he said I still had some
contamination so I returned to rewash my hands several times. After the
third washing I returned and he told me my hands were OK so I then went to
lunch. I returned from lunch and again in the presence of the monitor I
proceeded to decontaminate the spot. Eventually some concern had developed
about the spot and in the process I removed my gloves and began to talk to
Mr. Wright who had now arrived. At this point, I used a portion of con-
taminated paper which is one way the contamination got to my hands. However,
I had been touching throughout lunch my hair and uniform which was con-
taminated without my knowledge and these also are reasons for contamination
on my hands. I had not known of this contamination until Mr. Wright told
me Tuesday afternoon at approximately 1400 hours.

To my knowledge the above statement is true.

Michael P. Alumni

Michael P. Alumni
2/nd Lt, O-10
Solid State Physics Branch

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