

FILE BADGE EXPOSURE - [REDACTED]

December 23, 1960 (Dict. 12/22/60)

G. Lapiar

Safety Department

cc: D. B. Metz
F. Raffner

On December 8th, I received a film badge report from Nucleonic Corporation of America for the monitoring period of November 7th to November 19th, which indicated that [REDACTED] was exposed to 400 mrem x-ray. I contacted NCA, and spoke to Miss J. Garb, and asked her to re-evaluate the film for beta exposure, because I did not think that [REDACTED] was exposed to any x-ray. She said that she would evaluate it and call me back. In the meantime, I contacted you, C. Bernholm and D. B. Metz. As a result of a quick investigation of [REDACTED] time during the above monitoring period, it was confirmed that [REDACTED] definitely had no x-ray exposure, but that he was working part of the time in the Control Area. EX 6

Metz of NCA, called me in the middle of the afternoon on December 6th, to tell me that the x-ray exposure on [REDACTED] badge was a misinterpretation by NCA. The correct interpretation, according to W. Herman, was 250 mrem gamma and 5.77 rad beta. I asked him to confirm the re-interpretation in writing immediately, as it was necessary for our records. He said that he would do it. He also indicated that he was going to be at our Hicksville site the next day, Friday, December 9th, and that he would stop by to see me. EX 6

After my telephone discussion with W. Herman, I contacted you and D. B. Metz, to inform you of the new badge interpretation and that it was necessary to inform the AEC. When contacted by telephore, I Mr. J. Roeder of the AEC to inform them of the exposure. This was confirmed by

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Ex. 2

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THE FROM ME TO MR. R. W. KIRKMAN IN THE COMPLIANCE DIVISION OF THE AEC IN NEW YORK.] EX6

Late in the afternoon on December 8th, I reviewed [REDACTED] prior film badge records. I found that the badge worn by [REDACTED] during the monitoring period beginning October 24th and ending November 6th, indicated an x-ray exposure of 160 mrem. I then attempted to contact Mr. Herman of NCA for a reinterpretation of this badge. Mr. Herman had left for the day, so I spoke to Miss J. Cara of NCA. I told her about the 160 mrem x-ray exposure. I indicated that this also must be a misinterpretation, and that the exposure was beta. I asked her to have this badge re-evaluated and any change in reading confirmed to me in writing immediately. She said that she would mention it to W. Herman as soon as she could contact him. On Friday, December 9th, when W. Herman stopped by my office, I showed him the second film badge report that indicated [REDACTED] had an x-ray exposure. I again indicated that it was necessary for me to obtain in writing a corrected film badge report for the monitoring period of November 7th through November 19th, on [REDACTED]. I also indicated that the prior film badge monitoring report with the 160 mrem x-ray could not have been an x-ray exposure, but may have been a beta exposure. I said that I had contacted J. Cara about this second film badge because he was not in. He indicated that he would review the second film, and confirm any change in interpretation in writing.

On Tuesday, December 20th, a Mr. Epstein of the Compliance Division of the New York Office of the AEC, and Mr. J. Niolo of the Division of Industrial Hygiene, Department of Labor for the State of New York, visited [REDACTED] during the investigation the following items were noted.

1. We had received a corrected copy of [REDACTED] badge EX6 report from NCA for the monitoring period of November 7th through November 19th. I pointed out that we still had no word from NCA on the 160 mrem x-ray exposure for the monitoring period beginning October 24th through November 6th. I called Mr. A. Schloss, President of NCA, and told him about the 160 mrem x-ray exposure, and that I had also talked to J. Cara and W. Herman of his organization, in attempts to have a re-evaluation of this film for beta exposure. I indicated that we wanted an immediate review of this film. Mr. Epstein of the AEC, then asked to speak to Mr. Schloss himself. Mr. Epstein indicated that he also wanted Schloss to re-evaluate this film immediately. About 15 or 20 minutes after the

phone call, Schless called back to say that he had reviewed the film and that it also read a beta exposure in the order of 5.77 rad. The reason for the difference of 1-ray was interpretation (150 mrem for one badge, and 400 mrem for the other badge), was that the two badges represented different film emulsions. The different emulsions involved different curves for standards. Schless had no explanation as to why this second badge was not reinterpreted at the time I requested it. He also indicated to Schless that it was necessary to obtain this new interpretation in writing. Up to this time, December 22nd, we still have not received a written report from NCA on this second badge. W. Hansen was contacted today (December 22nd), and he indicated that the report was on his desk and he was going to mail it out today.

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2. [redacted] was removed from radiation exposure. [redacted] on December 8th, as soon as it was known that he might have had an over-exposure.

3. The urine analysis conducted by Dr. Young, and sent to Controls for Radiation for analysis, indicated a uranium concentration of 4.6x10⁻⁵ micrograms per milliliter.

4. Dr. Young's thorough medical examination of [redacted] including blood tests, gave no indication of a high radiation exposure. EX 6

5. NCA's radiation report for the monitoring period from November 7th to November 15th, indicated that it was mailed on November 30th, and for some reason the report was not received until December 8th. There is a discrepancy somewhere here. I do not see how this report could have been in the mails for eight days. I suspect that NCA did not mail the report on November 30th.

6. During the two monitoring periods that [redacted] badges was exposed to the high beta source, jobs there were other men working on the same jobs in the same area, and they did not have exposure anywhere near the magnitude of [redacted] for a one-day period. One man who was in the Central Area for a one-day period [redacted] is as follows: EX 6

Monitoring Period

Time in
Control Area

Film
Badges 1942

10/24/60-11/5/60

61.6 hrs
52.5

5.77 rad
65 mrad bec

11/7/60-11/19/60

23.1 hrs
28.0

5.77 rad
155 mrad bec

[REDACTED]
Latona

[REDACTED]
Latona

Latona was working primarily on the cut-off wheel, and [REDACTED] was working primarily on the straightening of the depleted PADC pins, although he also worked on the cut-off wheel.

7. [REDACTED] timecards indicated that he worked on the PADC material in the Control Area on September 29, 30, October 10, 11, 17, 18, 19, 20 and 21. During these days [REDACTED] did not have a film badge. This was contrary to procedures and had been discussed with the Supervisors.

8. The bench and equipment used for the PADC pin straightening was set-up to simulate conditions under which [REDACTED] worked. Two badges were attached to a cardboard carton and set in a position that approximated [REDACTED] when he worked there. One PADC pin was in the jig, and a large number of PADC pins were in a tote tray to the left of the jig. The tote tray was about half full, and there were about four pins on a table just to the right of the operator. The badges were left in this position for about four hours. These badges belong to the Commission, and were taken by Mr. Epstein for developing.

9. George Martin, Leadman in the Control Area, indicated that he has seen on occasion, up to 20 PADC pins on the table in front of the operator. During a June, Mr. Epstein could obtain no higher than 10 mR per hour with this large quantity of pins directly in front of the operator. George Martin also indicated that on several occasions he had seen some men in the Control Area toss their badge in the tote tray containing PADC pins. He said he thought it was a joke or something. He also indicated that he had not seen [REDACTED] do this, but of course it does not mean it did not happen. Martin also indicated that he had seen a badge on [REDACTED] when he was working in the PADC Area.

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This of course does not mean that [redacted] was wearing a badge at all times when he was in the area. EX 6

10. [redacted] indicated that he wore rubber shoe covers, laboratory coat and rubber gloves when he handled the FRBU material. He also wore glasses. EX 6

11. To get a 5.77 rad beta reading, the film badge would have to be in direct contact with uranium for a period of 24 hours, or for an 80 hour work period (the badge monitoring period of two work weeks) the badge would have to be exposed to an average reading of 72 mrad per hour.

12. [redacted] indicated that he wore his film badge on the laboratory coat when he worked in the Control Area. He indicated that he had left his film badge on the lab coat when he hung it up in the change room to the Control Area. He did this when he went to lunch or out on coffee breaks. EX 6

Everyone I have talked to about this exposure is of the opinion that the badge worn by [redacted] was probably exposed to these high levels of radiation, but [redacted] could not have been exposed to these levels. I am of the strong opinion that both of [redacted] badges were deliberately exposed. Those people whom I have discussed this situation with have indicated that they also believe that this is true. The badges could not have accidentally been left long enough in any area to be exposed to these extremely high radiation levels. It would be rather strange to have accidentally exposed both badges to identical quantities of beta radiation. [redacted] is a Machinist, and he was being used on extremely simple production operations. He had indicated his dissatisfaction with this arrangement. EX 6

As a result of all of the above, the following recommendations are made:

1. The Supervisor of the Control Area, as well as other Supervisors in Commercial, must again be instructed that they are not to assign anyone to work on the melting operations or on the FRBU operations in the Control Area, unless the individual has a film badge. This applies even to a one day assignment. This has been called to the attention of Supervisors on numerous occasions. ✓