

24-4206-1

DEC 22 1970

Mallinckrodt Chemical Works
Mallinckrodt/Nuclear
ATTN: Mr. Frank A. Schottelkorb
Director of Operations
Box 10172, Lambert Field
St. Louis, Missouri 63145

Gentlemen:

This refers to the inspection conducted during October 1970 of your activities authorized under AEC Byproduct Material License No. 24-4206-1. In addition, we wish to acknowledge receipt of letters dated October 21 and November 13, 1970, from Mr. Donald W. Soldan reporting high film badge exposures for several of your employees. We wish also to acknowledge receipt of a letter dated October 26, 1970, from Mr. A. J. Virginia reporting high film badge exposures for personnel at your Carlsbad, New Jersey, facility.

As a result of the inspection, it appears that certain of your activities were not conducted in full compliance with a condition of your license and the requirements of the AEC's "Standards for Protection Against Radiation," Part 20, and "Rules of General Applicability to Licensing of Byproduct Material," Part 30, Title 10, Code of Federal Regulations, in that:

1. The levels of radiation existing from April 11 to May 11, 1970, in the unrestricted area on the roof of the building located across a driveway north of the company's facilities were such that an individual continuously present in the area could have received a radiation dose in excess of 100 millirems in any seven consecutive days, contrary to 10 CFR 20.105(b), "Permissible levels of radiation in unrestricted areas."
2. Contrary to 10 CFR 20.201(b), "Surveys," adequate surveys were not made to determine compliance with 10 CFR 20.203(b) with respect to the radiation area existing on the roof above the solid active waste storage room.
3. Contrary to 10 CFR 20.201(b), "Surveys," no surveys were conducted to determine compliance with 10 CFR 20 with respect to the radiation

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levels existing during the handling and receipt of waste packages containing radioactive materials. Also, contrary to 10 CFR 20.201(b), no surveys were made to determine the presence and extent of radioactive contamination existing on such packages.

4. The radiation area existing on the roof of Building 100 above the solid waste room was not posted as required by 10 CFR 20.203(b), "Caution signs, labels, and signals."
5. Contrary to 10 CFR 20.206(a), "Instruction of personnel; posting of notices to employees," the individual preparing and filling iodine 125 capsules on June 18, 1970, was not adequately instructed in the safety problems associated with exposure to radioactive material or radiation and in precautions or procedures to minimize exposure.
6. Personnel monitoring records were incomplete, contrary to 10 CFR 20.401(a), "Records of surveys, radiation monitoring, and disposal." No personnel monitoring records were maintained for the week September 14 through September 20, 1970, nor were any such records available with respect to two technicians for the week beginning June 22, 1970.
7. The company failed to make a timely report to the Commission with respect to the high wrist badge exposures for two employees during the second calendar quarter of 1970, contrary to 10 CFR 20.405(b), "Reports of overexposures and excessive levels and concentrations." Your written report of the exposures was not filed with the Commission until October 21, 1970.
8. Records showing the receipt and disposal of byproduct material were incomplete, contrary to 10 CFR 30.51, "Records." The records did not always identify the isotopes and the quantities of radioactive material received and disposed.
9. Contrary to License Condition No. 15 which incorporates the procedures entitled "Health Physics Procedures Manual," dated October 1, 1968, one of your employees failed to conduct radiation surveys, as specified in Paragraph IV.B.1 of the procedures, while handling and processing phosphorus 32 during the week of July 20, 1970. As a result, the individual received an exposure to his wrist of about 40 rems.

This notice is sent to you pursuant to the provisions of Section 2.201 of the AEC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations.

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Section 2.201 requires you to submit to this office within twenty (20) days of your receipt of this notice, a written statement or explanation in reply including: (1) corrective steps which have been taken by you, and the results achieved; (2) corrective steps which will be taken to avoid further violations; and (3) the date when full compliance will be achieved.

Mr. Soldan indicated in his November 13 letter that the most recent phase of the company's film badge study would be completed "within the next week or two," and that a final evaluation of the exposures will be made after that time. With your reply to this notice, we would appreciate your informing us of the status of this matter.

With respect to Item 1 above, we understand that steps have been taken to correct the deficiency and that additional corrective actions are planned to further reduce the levels of radiation in unrestricted areas. Please provide us with your comments concerning this matter.

Very truly yours,

Lawrence D. Low, Director
Division of Compliance

bcc: PDR)
NSIC) w/cyps ltrs dtd
DML:MB) 10/21, 10/26 &
A. Giambusso, Co) 11/13/70
Incident File)
C.F. Eason, AWCR)

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