

Mallinckrodt

BOX 6172 LAMBERT FIELD • ST. LOUIS, MISSOURI 63145 • 314 AX 1-0540

NUCLEAR

NUCLEAR CONSULTANTS

RADIOPHARMACEUTICALS

August 16, 1967

United States Atomic Energy Commission
Division of Compliance
Washington, D.C. 20545

Attention: Mr. Lawrence D. Low, Director

Gentlemen:

This is a written statement or explanation in reply to your letter CO:LDD, 24-04206-01 dated July 25, 1967 referring to the inspection of our facility conducted during April, 1967.

Item 1. An individual received a whole body exposure of about 1.9 rems during the first calendar quarter of 1967 without a form AEC-4 having been completed. This individual (herein called Employee #1) joined Mallinckrodt/Nuclear as a health physics technician on November 21, 1966. A request for his previous radiation history was sent the following day on November 22, 1966. A copy of this request is enclosed. This individual also worked as a health physics technician at the Mallinckrodt - Uranium Division - Weldon Springs plant and among other duties was responsible for the compilation of radiation histories. We therefore knew what his accumulated occupations dose was, and that his permissible dose, calculated as per Form AEC-4, exceeded 90 rem. We assumed that it would be a simple matter to transfer his records from one office of Mallinckrodt to another and in good faith allowed Employee #1 to exceed 1.25 rems in the performance of his duties. Several additional requests for his previous radiation history were also made by telephone subsequent to the initial written request. However, the report was delayed in that no one had been assigned the responsibility for making such reports upon shutdown of Weldon Springs and as a result the quarter elapsed without having received written verification. Employee #1 was not allowed to exceed 1.25 rems exposure during the second quarter of 1967 in compliance with 10CFR 20.101 (a).

Item 2. The exposure referred to in Item 1. above was not reported to the Commission. We did not realize that having the records on file at Mallinckrodt - Uranium Division rather than Mallinckrodt/Nuclear constituted a violation and as a result did not report this technical overexposure contrary to 10CFR 20.405 (a). The exposed individual was

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not furnished a written report of his exposure. A written report was furnished Employee #1 after your inspectors pointed out that a violation of 10CFR 20.405 (b) had occurred. This report was removed from the radiation history file of Employee #1 here at Mallinckrodt/Nuclear after receipt of the enclosed Cumulative Radiation Exposure History which, in fact, verified that no overexposure had occurred.

Item 3. No surveys were made from December 8, 1966 to March 31, 1967 with respect to airborne concentrations of radioactive materials. Such surveys were taken prior to December 8, 1966 and subsequent to March 31, 1967. Air samples were collected from 8 A.M. to 5 P.M. Monday through Saturday in restricted areas. Continuous samples were taken of the air effluents before such effluents were released to unrestricted areas. These surveys showed that air concentrations were within permissible limits. The air sampling program was interrupted because of construction of our new facility and remodeling of the original laboratories. A new central air sampling system was ordered which took eight weeks for delivery. Additional delays were incurred because of involvement of our maintenance department in making the new facility operational. As a result, no data was obtained during the period mentioned. Air samples taken since the April inspection have continued to show that air concentrations in all areas are within permissible limits in compliance with 10CFR 20.103 and 10CFR 20.106.

Item 4. No surveys were made of laboratory uniforms prior to release to a commercial laundry. The Wednesday of the week of April 24, 1967 was the very first time laboratory uniforms had been returned to the commercial laundry. Prior to this, only laboratory coats had been worn which were surveyed each time prior to release. When the individual responsible for these surveys was asked by your inspector why he surveyed laboratory coats but not uniforms, he stated that he had been instructed to survey the coats, but had not been instructed to survey the uniforms. Although at the time, it did not appear necessary to instruct the individual that the uniforms which replace the labcoats should be surveyed as the labcoats had been surveyed, apparently this was not the case. These instructions were issued and except for the initial release, all uniforms and labcoats have since been surveyed in compliance with 10CFR 20.201 (b).

Item 5. No surveys were conducted of articles contained in wastebaskets in the production area. Radioactive waste containers in the production area were emptied by a member of the health physics department by transfer of the contents to the radioactive waste storage room. Wastebaskets for non-radioactive waste were emptied by the production department janitor. It was these wastebaskets for non-radioactive waste which had not been surveyed. The responsibility for emptying all waste containers for both radioactive and non-radioactive waste and for surveying non-radioactive waste prior to release has been transferred to the health physics department subsequent to the April inspection in compliance with 10CFR 20.201 (b).

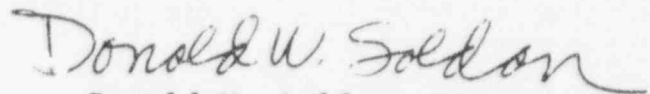
Item 6. During March, 1967 and April, 1967 concentrations of radioactive materials discharged to the sanitary sewage system exceeded the limits specified in Appendix B. An error in the initial calculations made relating count rate, activity, and total water consumption, resulted in an incorrect factor being used for all subsequent calculations. This error was noted by your inspectors during their inspection. More activity was released than had been intended as a result of the miscalculation. No concentrations of radioactive materials in excess of the limits have been discharged since the week of April 24, 1967 in compliance with 10CFR 20.303 (b) (1).

Item 7. Records were not maintained of surveys which had been conducted (subsequent) prior to the week of April 24, 1967, to assure that laboratory coats were not contaminated prior to release. Records have been kept of such surveys subsequent to the week of April 24, 1967, in compliance with 10CFR 20.401 (b).

We thank you for pointing out those areas in which we were not in full compliance, thus enabling us to take corrective measures to assure that our current operations with radioactive materials are being performed in full compliance with the provisions of 10CFR-20.

Sincerely yours,

Mallinckrodt/Nuclear



Donald W. Soldan, Manager
Health Physics Department

DWS/ba

Enclosure

NOTE:

The individual herein referred to as Employee #1 is

[REDACTED]

Ex 6



BOX 6172 LAMBERT FIELD • ST LOUIS, MO 63145

NUCLEAR CONTAINERS



United States Atomic Energy Commission

Division of Compliance

Washington, D.C. 20545

Attention: Mr. Lawrence D. Low,
Director

November 22, 1966


Radiation Safety Officer
Uranium Division
Mallinckrodt Chemical Works
P. O. Box 472
St. Charles, Missouri

Dear Sir:

I hereby request that you furnish me a report pursuant to Section 20.404 under the provisions of the Atomic Energy Commission regulations entitled "Standards for Protection against Radiation" (10 CFR Part 20).

The following identifying data is for your information:

Social Security No.
Dates of Employment
Location of Employment

 Ex 6
Uranium Division
Mallinckrodt Chemical Works

You may send the report to:

Mr. Donald W. Soldan
Nuclear Consultants
Division Mallinckrodt Chemical Works
Box 6172, Lambert Field
St. Louis, Missouri 63145

Sincerely yours,

Employee #1

#1 :HS

MALLINCKRODT CHEMICAL WORKS

ST. LOUIS.

June 23, 1967

Mr. Don Soldan,
Health Physics
Mallinckrodt Nuclear

Cumulative Radiation Exposure History

Quite some time ago you requested the history on two of previous Weldon Spring employees who have joined your organization.

Shutdown of the Weldon Spring Plant disrupted record and record responsibilities and consequent delay in providing the required information. Today I was at Weldon Spring and secured the following data from personnel files.

Employee #1

1956 thru 1966	Film Badge Gamma	3.16 rad
	" " Beta	3.40 rad

No known or recorded internal exposure.

Employee #2

1956 thru 1966	Film Badge Gamma	1.46 rad
	" " Beta	2.51 rad

No known or recorded internal exposure.

In both cases the values are cumulative totals for entire employment period and our records disclose no history of exposure prior to his starting date with us.

Mont C. Mason

Mont C. Mason

For Mallinckrodt - Uranium Division

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