

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

CENTRAL FILES

NOV 10 1976

Mallinckrodt, Incorporated
ATTN: Mr. Donald W. Soldan
Chief Radiation
Protection Officer
Box 10172 Lambert Field
St. Louis, Missouri 63145

License No. 24-04206-01

Gentlemen:

This will acknowledge receipt of your letter dated October 26, 1976, reporting the exposure of an individual to radiation. The cause of this apparent noncompliance item with an NRC regulation and your actions to preclude a recurrence will be reviewed during a future inspection.

Sincerely yours,

James M. Allan, Chief
Fuel Facility and
Materials Safety Branch

bcc w/ltr dtd 10/26/76:
Central Files
Reproduction Unit NRC 20b
PDR
NSIC



Information in this record was deleted
in accordance with the Freedom of Information
Act, exemptions 6

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Mallinckrodt, Inc.

BOX 10172 LAMBERT FIELD * ST. LOUIS, MISSOURI 63145 * PHONE 314-291-0540

October 26, 1976

Mr. James M. Allan, Chief
Fuel Facility and Materials
Safety Branch
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Reference: U.S. AEC License
No. 24-04206-01

Dear Mr. Allan:

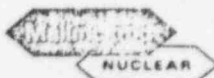
A Quality Control technician was found to have an elevated thyroid burden of Iodine-131 on September 24, 1976 at 1500.

At the time of detection the individual was found free of personal contamination. The area in which the individual worked was surveyed for loose contamination. All samples were within permissible levels. Thyroid burden measurements were performed on other individuals working in the area. No other uptakes could be found. The face velocity of the hood was measured. An average of 140 L.F.M. was found. Air concentrations in the area were measured. No significant increase over normal could be found.

During interviews it was determined that the individual worked in the assay area of Quality Control on 9/23/76 with Iodine-131 products. After completing the assay work the individual surveyed the work area and found gross contamination present in the fume hood. The individual extensively decontaminated the fume hood and left for the day. The individual felt to effectively decontaminate the fume hood it was necessary to lean into the fume hood for an extended period of time.

It was concluded that the uptake resulted from airborne concentrations inhaled while leaning into the fume hood during the decontamination operation.

The individual's average thyroid burden for seven consecutive days was 0.138 microcuries. Equating the individual's thyroid burden to maximum permissible air concentrations for a 40 hour



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Mr. James M. Allan
U.S. NRC Region III
October 26, 1976

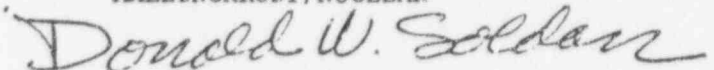
Work week would result in 1.8 times the maximum permissible air concentration of Iodine-131.

$$\frac{1 \text{ MPCa}}{9 \times 10^{-9} \text{ uCi/ml}} \times \frac{0.188 \text{ uCi}}{10^7 \text{ ml/day } (.23)} \times \frac{40 \text{ hrs.}}{5 \text{ days}} = 72.6 \text{ MPCa-hrs.}$$

The Radiation Safety Committee has modified the standard operating procedure for the assay area of Quality Control to include precautions against leaning into the fume hood and requiring a thyroid burden measurement upon completion of the cleaning operation.

Sincerely yours,

MALLINCKRODT, INC.
MALLINCKRODT/NUCLEAR



Donald W. Soldan
Chief Radiation Protection
Officer

/lm

cc: Dir. of Inspection & Enforcement
Dir. Office of Management Info. & Control
Exposed Individual

The individual referenced in this report is

Ex 6

[REDACTED]

Her Social Security number is [REDACTED]

Date of birth is [REDACTED]