Source File

In reply refer to:
RO:RPB
24-04206-01

APR 2 3 1973

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

Gentlemen:

This will acknowledge receipt of your letter dated April 10, 1973, with enclosure, reporting the exposure of an individual to airborne iodine 125. This matter will be examined during the next inspection of your facilities.

Very truly yours,

D. F. Knuth, Deputy Director
for Field Operations
Directorate of Regulatory Operations

bcc: w/cpy ltr dtd 4/10/73
PDR
NSIC
L:BMB
License Files
C. F. Eason, AWCRR, AGMES
Incident Files
DR Central Files

RO:III
DR Reading Files

d42

OFFICE ▶	RO:RPB	RO	RO			
SURNAME ▶	TWBrockett:ef X-7347	GWRoy	DFKnuth			
DATE ▶	4/18/73					

Mallinckrodt NUCLEAR
BOX 10172 LAMBERT FIELD • ST. LOUIS, MISSOURI 63145 • 314 AX 1-0540

April 10, 1973

Mr. F. E. Kruesi, Director
Regulatory Operations
U. S. Atomic Energy Commission
Washington, D. C. 20545

Reference: USAEC License
No. 24-04206-01

Gentlemen:

A Production Department Technician was found to have an elevated thyroid burden of Iodine -125 on March 9, 1973. We determined that the exposure probably occurred on March 6, 1973, on which date he processed relatively large amounts of I-125. Our best estimate of the amount of activity present in the gland was 3.6 microcuries on the first day of exposure resulting in an average burden of 3.4 microcuries for seven consecutive days ending 3/12/73. The exposure which would result from the initial burden is 29.8 rems in 13 consecutive weeks.

We were unable to correlate the uptake with air concentrations, personal contamination, or contamination of the work area.

An independent thyroid burden measurement was made by a competent medical authority who reported a lower burden than we measured. He also offered his opinion that the exposure will have no adverse effect on the future health of the individual.

This individual has had a previous history of elevated thyroid burdens. The exposures in some instances were related to his personal techniques and failure to follow radiation safety rules and practices one of which is a requirement that an individual report for a thyroid burden measurement before and after processing Iodine products.

He did not report for a thyroid burden measurement on March 6, 1973, as required.

His employment was terminated on March 16, 1973, upon consideration of his past performance.

Sincerely yours,

MALLINCKRODT NUCLEAR
MALLINCKRODT CHEMICAL WORKS

Donald W. Soldan

Donald W. Soldan
Chief, Radiological
Protection Officer

DWS:ja

cc: Mr. Boyce H. Grier, Director

DAY	DATE	MEASURED UC	CALCULATED UC
W	2/28	0.12	
Th	3/1	Absent	
F	3/2	Absent	
S	3/3	-	
S	3/4	-	
M	3/5	Absent	
Tu	3/6	No data	(1) 3.6
W	3/7	No data	3.5
Th	3/8	No data	3.5
F	3/9	3.6	3.4
S	3/10	-	3.4
S	3/11	-	3.3
M	3/12	3.4	3.3
Tu	3/13	3.2	3.2
W	3/14	3.0	3.2
Th	3/15	3.1	3.1
F	3/16	Terminated	

Seven consecutive days average

$\overline{3.4}$ uc

(1) Best estimate of activity on first day of exposure.

MEASURED UC	DAYS T	DECAY $e^{+\lambda t}$	CALCULATED UC ON 3/6
3.6	3	1.06	3.8
3.4	6	1.11	3.8
3.2	7	1.12	3.6
3.0	8	1.14	3.4
3.1	9	1.16	3.6
AVERAGE OF ALL DATA			3.6

All calculations are based upon an effective half life of 41.8 days

NAME: [redacted]

DATE OF BIRTH: [redacted]

SOCIAL SECURITY NUMBER: [redacted]