

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

January 7, 1972

Director, Division of Compliance  
U. S. Atomic Energy Commission  
Washington, D. C. 20545

Gentlemen:

A production technician incurred an elevated thyroid burden of iodine 131 on July 2, 1971, apparently from water splashed on his face and hair from a contaminated hotsink. His average thyroid burden for that calendar week was 0.05 microcuries. The average of measurements made during the following calendar week was 0.13 microcuries.

We did not believe this exposure to be reportable since all previous reports to the Commission had been based upon measurements made which averaged greater than 0.14 microcuries during a 7 day calendar week.

We were advised during a recent inspection that any 7 consecutive days which yield the highest possible average burden should be chosen as the basis for reporting thyroid exposures to the Commission.

It is on this basis that we are now reporting this particular exposure. Application of this ruling yields an average burden of 0.158 microcuries for the period July 2-8 which is 13% above the permissible burden of 0.14 microcuries.

The calculated exposure to his thyroid for the quarter ending July 2, 1971, the day of the incident, was 1.04 rems. The exposure for the following quarter ending October 1, was 1.76 rems. These exposures compare favorably with the 8 rems permissible exposure recommended by the ICRP.

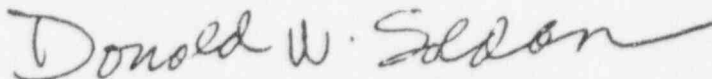
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Air concentrations of iodine 131 at station P3, nearby the hotsink, averaged  $1.3 \times 10^{-9}$  microcuries/milliliter for the period June 30 to July 8, 1971. Concentrations at other production department stations were comparable or lower for the same period.

The corrective step taken last July was to have supervisory personnel reinstruct their technicians that, when disposing of small amounts of radioactive materials in a hotsink, liquids should be carefully poured directly down the drain and flushed with water to minimize contamination of the sink.

Sincerely yours,

MALLINCKRODT CHEMICAL WORKS  
MALLINCKRODT NUCLEAR



Donald W. Soldan, Chief  
Radiological Protection Officer

DWS:cm

cc: Boyce H. Grier  
Director of USAEC  
Region III

The individual referred to in this report is:

[REDACTED]  
Social Security [REDACTED]

Date of Birth [REDACTED]

Ex 6