

UNITED STATES GOVERNMENT

Memorandum

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TO : R. G. Page, Chief, Enforcement Branch DATE: July 21, 1966
 Division of State & Licensee Relations
 Headquarters

FROM : E. J. Moretti, Radiation Specialist (Review)
 Region III, Division of Compliance, Chicago

SUBJECT: INSPECTION REPORT - MALLINCKRODT CHEMICAL WORKS, NUCLEAR CONSULTANTS
 DIVISION, ST. LOUIS, MISSOURI - LICENSE NO. 24-4206-1

CO:III:ECA

Attached is the report of a reinspection of the subject licensee, which was conducted on June 13, 14, and 15, 1966.

This report sets forth six items of noncompliance. The first concerns the amount of Iodine-131 detected by the licensee in the thyroid of several employees, which showed weekly averages greater than 0.14 microcuries on various occasions over a period of several months, indicating an apparent exposure of the individuals to average concentrations of airborne radioiodine in excess of the limits specified in 10 CFR 20.103. A similar item of noncompliance was noted during the last previous inspection (inspection conducted in November 1965).

The second item of noncompliance concerns the effluent (to unrestricted areas) from the licensee's radioiodine production facility, which, since the last inspection, has ranged from one to several hundred times maximum permissible concentration for soluble Iodine-131.

The third item of noncompliance concerns the failure of the licensee to notify the Commission of the excess thyroid burdens in several employees as required by 10 CFR 20.405(a).

The fourth item of noncompliance concerns the failure of the licensee to notify the Commission of air concentrations exceeding 10 times the maximum permissible level for unrestricted areas, as required by 10 CFR 20.405(a).

The fifth item of noncompliance concerns the failure of the licensee to notify, in writing, the several employees who received thyroid burdens of greater than 0.14 microcuries (averaged weekly), as required by 10 CFR 20.405(b).

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Information in this record was deleted
 in accordance with the Freedom of Information
 Act, exemptions 6
 FOIA- 96-343

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The sixth item of noncompliance concerns the failure of the licensee to include the names of individuals exposed to concentration of Iodine-131 as reported in the licensee's letter dated April 15, 1966. 7

The six items of noncompliance noted above were discussed with the licensee management (W. R. Konnecker, Vice-President; and D. W. Soldan, Manager, Health Physics Department). The licensee representatives stated that they realize that the main problem leading to the excessive thyroid burdens was the lack of proper ventilation in the various storage and use facilities during and after iodine production. Many changes have taken place since the last previous reinspection concerning these facilities, which have resulted in a downward trend in the thyroid burdens of the several employees involved. The licensee representatives indicated that they believed that the high air concentrations from their iodine stack was due to a lack of proper filtering in the stack itself. Recent construction and use of a new charcoal filter bed in the iodine stack has resulted in a general decrease in these air concentrations. During this management discussion, Dr. Konnecker turned over to Mr. Soldan all responsibilities for reporting to the Commission any and all information which is required to be reported. This would include personnel exposures as well as high air concentrations, among others.

During this inspection, the licensee representatives stated that one employee [REDACTED] who is experiencing almost continuous weekly average of 0.14 microcuries or greater, has a medical thyroid problem. They stated that they recently learned that [REDACTED] had a greatly enlarged and overactive thyroid. The licensee representatives stated that they plan to get statements from [REDACTED] and her doctor concerning this medical problem and will submit this information to the Commission in the near future. Ex 6

At the time of this inspection, a new building addition was under construction which would double the size of the licensee's present facility. Konnecker stated that this new facility would be used exclusively for the production phase of the license program. The licensee hopes that the more adequate design of this new facility would greatly reduce personnel exposures and air concentrations going to unrestricted areas. In addition, a complex of six caves are planned for the new addition, which would also reduce the external exposures, which are at the present time approaching the 3.0 rem per quarter limit for several employees.

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Nuclear Consultants Corporation was acquired by the Mallinckrodt Chemical Works on January 5, 1966. As of that time, the Nuclear Consultants Corporation became the Nuclear Consultants Division of Mallinckrodt Chemical Works. Dr. W. R. Konnecker stated that he is now Vice-President and General Manager of the Nuclear Consultants Division, Mallinckrodt Chemical Works, and as such, assumes the highest level of management responsibility insofar as this licensed program is concerned.

Region III does not plan to conduct a follow-up inspection. Rather, these items of noncompliance will be reviewed during the next reinspection.

Enclosure:
Inspection Report (1 cy.)

cc: Division of Compliance, HQ - w/encl. (orig.)