

Office Memorandum • UNITED STATES GOVERNMENT

TO : Robert Lowenstein, Director
Division of Licensing and Regulation, Washington

DATE: May 4 1961

FROM : S. R. Sapirie, Manager
Oak Ridge Operations Office

SUBJECT: COMPLIANCE INSPECTION REPORTS - MALLINCKRODT CHEMICAL WORKS, ST. LOUIS,
MISSOURI, LICENSE NOS. SNM-33 AND C-5308

MI:WWP

Enclosed are compliance inspection reports on the subject licensee's special nuclear and source material program being conducted in a plant near Hematite, Missouri. The inspection covered radiation safety only and did not include an actual detailed inspection of the criticality safety aspects of the special nuclear material program. The inspection was made at this time as the result of a letter dated December 15, 1960 from the licensee which reported exposures of personnel to airborne radioactivity concentrations in excess of applicable limits of the regulations. The programs were found to be in noncompliance as follows:

c/lc License Nos. SNM-33 and C-5308 ← SMP - 293
10 CFR 20.101 Exposure of individuals in restricted areas.
(b) Licensee records show exposures of some personnel to airborne concentrations of radioactivity in excess of the limits specified in this section of 10 CFR 20 as effective prior to January 1, 1961.

old 10 CFR 20.403 Notification and reports of incidents.
(c) Thirty-day report. The licensee did not report, within thirty days, exposures of individuals to concentrations of radioactive materials in excess of the applicable limits of 10 CFR 20 as effective prior to January 1, 1961.

10 CFR 20.203 Caution signs, labels and signals.
(b) Radiation Areas. The licensee has not posted areas with radiation area signs where required by this section of the regulations.

(d)(2) The licensee has not posted all areas, with airborne radioactivity signs, that require such posting under this section of the regulations.

License No. SNM-33

License Condition

The licensee is authorized under the conditions of the license to use an incinerator for contaminated trash.

C-25

The license condition requires that the licensee use procedures as described in his letter of request dated November 8, 1960, which states that the flue gases from the incinerator will be continuously monitored for the first month of operation. The licensee has not monitored the flue and is therefore in noncompliance with the license condition.

The noncompliance with 10 CFR 20.101 (as effective prior to January 1, 1961) airborne radioactivity exposures and the reporting of such exposures under 10 CFR 20.403(c) (as effective prior to January 1, 1961) were discussed with Mr. Frank Zeitlin, Vice President in charge of licensee commercial operations, and Mr. J. W. Miller, Head of the Industrial Hygiene Department. Improvements in equipment have decreased the airborne concentrations and Mr. Miller stated that no problem is expected in maintaining personnel exposures to airborne concentration below the limits of 10 CFR 20 as effective January 1, 1961.

The posting noncompliances with 10 CFR 20.203(b), (d)(2) were discussed with Mr. Miller and he stated that the required posting will be established as soon as possible.

In regard to the noncompliance with SNM-33 license conditions, Mr. Miller stated that appropriate sampling equipment will be procured and the incinerator flue sampled as required.

We recommend that the Division of Licensing and Regulation letter of compliance status inform the licensee of the following:

1. The licensee should be requested to confirm that the posting deficiencies have been corrected.
2. The licensee should be requested to indicate the status of the sampling program for the flue of the incinerator as corrective action for the noncompliance with the license condition.

Licensee records for 1959 and the first three quarters of 1960 show some exposures of personnel to airborne radioactivity in excess of permissible limits but the major part of the excessive exposures recorded for this period were only slightly in excess of the permissible limits. Licensee records for the last quarter of 1960 show about fifteen exposures slightly in excess of the permissible limits of the regulations. However, in no case has the licensee taken into consideration, in the compilation of the records, the benefit received

COMPLIANCE INSPECTION REPORT

1. Name and address of licensee Mallinckrodt Chemical Works Second & Mallinckrodt Streets St. Louis 7, Missouri Attention: Mr. John C. Moore Vice President	2. Date of inspection March 20 - 23, 1961
	3. Type of inspection Reinspection (1)
	4. 10 CFR Part(s) applicable 20 and 40

5. License number(s), issue and expiration dates, scope and conditions (including amendments)

<u>License No.</u>	<u>Date</u>	<u>Expiration</u>	<u>Scope and Conditions</u>
C-3308	10-20-60	10-31-61	Source material for use in accordance with the procedures described in your application of September 29, 1960. This license extends to your plant at Hematite, Missouri.

6. Inspection findings (and items of noncompliance)
 The licensee's program involves the processing of source and special nuclear materials under License Nos. SM-33 and C-3308 in a plant located near Hematite, Missouri. The plant is designed and devoted entirely to this purpose. Licensee personnel engaged in the program have adequate training and experience to satisfactorily protect licensee personnel and the general public from the potential radiological health and nuclear criticality hazards incident to the program. Personnel are monitored with a licensee furnished film badge program and a record is maintained of the film readings. Evacuation surveys have been made and a record kept of the survey findings. A program of sampling airborne and liquid effluent concentrations is in effect and records are maintained of the sample results. Plant areas and containers are posted and labeled as required by 10 CFR 20.203(a)(1), (2)(1) and (2)(4). Form AEC-3 is posted as required by 10 CFR 20.206(e). The only items of noncompliance observed or otherwise noted during the course of this inspection are as follows:

- 10 CFR 20.101 Exposure of individuals in restricted areas.
 (b) As effective prior to January 1, 1961, the licensee exposed personnel to concentrations of airborne radioactivity in excess of the amounts stipulated in this section of the regulations. (See paragraphs 26, 27 and 28 of the report details).

(continued on reverse side)

7. Date of last previous inspection Jan. 12 thru 14, 1960	8. Is "Company Confidential" information contained in this report? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (Specify page(s) and paragraph(s))
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DISTRIBUTION:

Division of Compliance Washington, D.C. (1)	Approved by: <i>Lee Dubinski</i> Lee Dubinski Oak Ridge Operations Office (Operations office)
Division of Licensing & Regulation Washington, D.C. (1)	<i>R. W. Perry</i> R. W. Perry (Inspector)

April 14, 1961
(Date report prepared)

If additional space is required for any numbered item above, the continuation may be extended to the reverse of this form using foot to head format, leaving sufficient margin at top for binding, identifying each item by number and noting "Continued" on the face of form under appropriate item.

6. Inspection findings (and items of noncompliance) (continued)

10 CFR 20.403 Notification and reports of incidents.

(c) Thirty-day report: The licensee failed to report, within thirty days, exposures of individuals to concentrations of radioactive materials in excess of the applicable limits of this section of the regulations as required by 10 CFR 20 as effective prior to January 1, 1961. (See paragraphs 26, 27, and 28 of the report details).

10 CFR 20.203 Caution signs, labels and signals.

(b) Radiation areas - The licensee has not posted areas with "radiation area" signs where required by this section of the regulations. (See paragraph 32 of the report details).

(d)(2) The licensee has not posted all areas, with airborne radioactivity signs that require such posting under this section of the regulations. (See paragraph 32 of the report details).