

Robert Lowenstein, Director
Division of Licensing and Regulation
Headquarters
Roy C. Hageman, Director
Region III, Division of Compliance

August 27, 1962

INSPECTION REPORT OF AMERICAN POTASH AND
CHEMICAL CORPORATION, LINDSAY CHEMICAL DIVISION,
WEST CHICAGO, ILLINOIS : LICENSE NO. R-24. 40-2061

CO:III:JGD

Enclosed is an inspection report of subject license showing six items of noncompliance. This inspection was conducted concurrently with an inspection of Byproduct Material License No. 12-4932-1 for which a Form AEC-591 was issued. The Form AEC-591 was transmitted to you on August 17, 1962.

It should be noted that citations are recommended for overexposure of personnel to airborne concentrations and to external radiation. In each instance, a report of the exposure was made by the licensee to the Commission. The licensee has not informed the concerned individuals in the instance of the exposure to excess airborne concentrations. The individuals involved were wearing respiratory protective devices which were not considered in determining the exposures. In his letter of January 29, 1962 to the AEC, the licensee requested permission to consider these devices and stated he would delay notification of the individuals until his request is decided. He has received no notification of such decision.

With regard to overexposure from exterior sources, the licensee has taken action to prevent a recurrence of such exposures. Unfortunately, these actions had not been implemented sufficiently to prevent an immediate recurrence of such overexposure in the subsequent quarter.

The licensee makes no surveys of removable surface contamination, but depends on continuous clean up effort to control such contamination. Independent measurements showed a maximum on process equipment of only 6140 disintegrations per minute (dpm) per 100 square centimeters. This compared favorably with the 1000 dpm per 100 square centimeters for unrestricted areas suggested in the pro-

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Form AEC-318 (Rev. 9-53) *Charles 8-29* U. S. GOVERNMENT PRINTING OFFICE 16-61761-3

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posed amendment of March 9, 1962 to 10 CFR 20.

The recommended citations for failure to perform adequate surveys for airborne activity refer to past actions by this licensee. The licensee has proposed a program of more systematic and valid conduct of air sampling which should correct, to a great extent, this item of noncompliance. These proposals are included in this report and were submitted to you in support of a pending application. These proposals have been placed in effect.

The licensee's method of disposal of waste by discharge into a pond on his property, although known to the Commission for sometime, has never been authorized pursuant to 10 CFR 20.302. Consequently, appropriate citation is recommended. It appears that the licensee's contention that the leaching process for escape of the liquid from this pond will remove radioactive material has merit. At least, samples failed to indicate values to cause concern when compared with the limits of Appendix B, 10 CFR 20. Information regarding this method of disposal is included in the licensee's pending application.

During the last inspection, the licensee's air sampling and measurement techniques were discussed in detail. Specific recommendations were made to the licensee. Since that time, he has devoted considerable effort to improve these techniques. Specifically, he has evaluated his sampling and counting time to obtain a more statistically valid sample; he has performed series counts to account for short-lived constituents; and, he has introduced into his calculations a factor to correct for self-adsorption.

In the absence of Mr. G. T. Deck, Director of Manufacturing (Eastern) and Mr. P. J. Bennett, Plant Manager, the results of this inspection were discussed with Dr. R. M. Healy, Licensee Radiation Safety Officer and Head of Products and Processes Development Section. Dr. Healy stated that practices already in force should prevent overexposures of individuals either to external radiation or to concentrations of airborne activity. Air sampling has been increased and systemized in accordance with the procedures already submitted to the Commission in support of his pending application. Waste disposal into the licensee's waste pond has been described to the Commission. Dr. Healy stated he had no reason to believe that such

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disposal will be denied. Dr. Healy stated he did not consider the burning of the bags to constitute treatment of the licensed material since the bags were empty. If he is cited for this, he intends to request an exemption from the pertinent section of the Federal Regulations.

This office plans no follow-up inspection.

Correspondence regarding this inspection should be directed to Mr. P. J. Bennett, Plant Manager.

Enclosure:

Inspection Report (1 cy.)

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

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