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(Compliance) Division of Inspection
Washington 25, D. C.
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Chicago Operations Office

June 16, 1958

INSPECTION REPORT - LINDSAY CHEMICAL COMPANY, WEST CHICAGO, ILLINOIS
LICENSE NO. R-106 (PART 40)

SYMBOL: ID:EJM

Enclosed is an inspection report for the Lindsay Chemical Company of West Chicago, Illinois.

Lindsay management personnel were cooperative in assisting the Inspection Division personnel to fulfil their inspection function during the visits made to the plant.

Dr. Howard E. Kremers, Technical Assistant to the President, and Edward B. Maryniw, RSO, both competent people, are well versed in the provisions of the 10 CFR 20 regulations and their application to the Lindsay operations. Dr. Kremers has rewritten the regulations into more basic language for use by the operating supervisory personnel to aid them in complying with the regulations relating to their respective operations.

Dr. Kremers described the technical aspects of the Lindsay production program and the radiological protection procedures used in association with this program. Company confidential information, which was furnished to better explain the processing techniques used, was purposely omitted from the inspection report to safeguard the proprietary rights of the licensee. The omission of this data does not affect the inspection details reported.

Dr. Kremers willingly pointed out the areas in which compliance with 10 CFR 20 regulations is questionable. These were stated to be the calcining and roasting operations. The airborne radioactivity concentrations prevailing in these areas are about eight times the established limits specified in Schedule B, Table I, Column 1, 10 CFR 20. The airborne concentrations are inherently high due to the nature of the materials handled for processing.

However, during the last two years Lindsay, on its own initiative, has made innovations in these areas which have materially reduced the original concentration levels which were about fifty-six times the permissible limits to about eight times. Dr. Kremers stated

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that every effort is being made to comply with the regulations, but he expressed some doubt whether this could be achieved owing to the inherent nature of the materials handled in these operations. Additional studies are in progress and are being contemplated to complete compliance.

The Lindsay management has taken a very critical look at their operations to determine where the trouble spots might be. When these were found, corrective action was initiated to attempt to remedy the situation. The management personnel freely admit that a lot more can be done but it will take additional time and effort to solve these problems.

An over-all look at their program prompted the licensee to evaluate the possible effects of stack effluents to the surrounding environment. An air sampling survey, covering an area within a 25-mile radius of the plant, was performed to determine these effects during a normal production run. An evaluation of the air sampling survey results showed that the Lindsay operations did not contribute any significant amounts of airborne activity to the surrounding atmosphere during their production operations. Samples were gathered during a variety of meteorological conditions.

Additional consideration is being given to the possible contamination of areas outside of the licensee's control. Studies are being contemplated to determine the possible contamination due to losses of the source material by leaching through soil, runoff from waste piles by rain, and dispersion by wind. At present, Dr. Kramers is cooperating with the Illinois State Department of Health in the study program.

Accumulated solid waste storage at the present time does not pose a problem. However, Dr. Kramers stated that some time in the future this stockpiling of wastes might be considered a potential hazard should the surrounding area about the plant site be considered for housing development. Dr. Kramers suggested that the AEC could assist licensees of Lindsay's character in developing waste disposal techniques. This could be accomplished by assigning research grants to enterprising graduate students for possible solution.

We feel it is definitely desirable to specifically call the attention of the Division of Licensing and Regulation to the improvements that Lindsay Chemical Company Company has been making in their safeguards for radiation protection.

Enclosure:

Inspection Report (2 cys)

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