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JAN 16 1960

Marvin M. Mann, Assistant Director
Division of Inspection, Headquarters

Robert W. Kirkman, Director
Inspection Division, NYOO

TRANSMITTAL OF LICENSE COMPLIANCE INSPECTION REPORT -10 CFR 40

SYMBOL: DES:PEK

Transmitted herewith is the following inspection report involving noncompliances:

RARE EARTHS, INC.
Division of W. R. Grace & Co.
Pompton Plains, New Jersey

License Nos. R-196
R-132 - Clear Rpt.
C-3623 Clear Rpt.

The following items of noncompliance were found during the inspection of license R-196:

20.102(b)(1)(2) - "Permissible levels of radiation in unrestricted areas" - in that levels of radiation exist at the outside storage and dump areas of such a magnitude that if an individual were continuously present in these areas, it could result in his receiving a dose in excess of 2 mrem in any one hour or could result in his receiving a dose in excess of 100 mrem in any seven consecutive days. (See items 14B and 15 of report details.)

- 20.201(b) "Surveys"
 - in that the radiation surveys conducted by the licensee have not fully evaluated the direct radiation hazard both in and out plant.
 - in that no in or out plant air samples or stack air samples have been taken to date in order to evaluate the thoron and thorium concentrations originating from production operations and from storage of sludge materials.
 - in that no water effluent sample surveys have been made by the licensee to determine status of compliance with Section 20.102. inspection (See items 14, 15, and 17 of report details.)

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20.207 "Storage of licensed material"

- in that the licensee stores in the unrestricted area adjacent to his production area approximately 750 tons of thorium bearing sludges which are not secured against removal. (See item 15 and 16 of report details.)

20.203(b) "Caution signs, labels and signals" - "Radiation areas"

- in that radiation areas within and outside of the plant existed which required posting in accordance with this section (i.e., measurements taken at the locations at which approximately 30 drums each of Th(OH) and ThO₂ showed radiation readings from 7.5 to 12 mr/hr at 1', respectively, from these drums). (i.e., at piles of sludge containing silica (mesothorium) and gray phosphate cake, radiation levels found were 11 and 15 mr/hr at 1' from the piles, respectively.) (See items 14B and 18 of report details.)

(a)(2) "Additional Requirements"

- in that the area outside the plant where approximately 30 drums of ThOH (approximately 500 lbs. per drum) were stored was not posted with any radiation caution sign or symbol.

- in that piles of sludge stored outplant which include waste treatment sludge, yttrium and reworked silica sludge, were not posted with any radiation caution, radioactive material sign or symbol.

(See items 16 and 18 of report details.)

20.305 "Treatment or disposal by incineration"

- in that the licensee has periodically incinerated on his unrestricted plant ground bags, wipes and wood contaminated with thorium. (See item 19 of report details.)

20.301 "General Requirement"

- in that the licensee has disposed of both soluble and insoluble effluent to a storm sewer without obtaining Commission approval as per Section 20.302. (See item 17 of report details.)

20.401(c) "Records of surveys, radiation monitoring and disposal"

- in that the records of surveys made by the licensee are incomplete in that no notation as to the instruments used or distances from source of radiation were available or were levels at sludge piles available, and specifically, the survey of March 27, 1959 did not record any measurements in units (mr/hr). (See item 14B and Exhibits B and C of report details.)

There were no items of noncompliance noted under licenses C-3623 or R-132.

The aforementioned items of noncompliance were discussed with Richard Mandle, Plant Manager, Richard Stone, Sales Manager, and D. Hubbard, Manager, Industrial Relations, Erwin Plant, Davison Chemical Co. All of the aforementioned individuals stated their willingness to comply with the Federal Regulations. Mandle, in a telephone conversation to this office on January 14, 1960, said that the services of health physicists of the Erwin, Tennessee plant have been made available to him and that he has already started to conduct an air sampling program. He also informed us that he has routinely submitted both liquid waste effluent and product samples to the New Jersey Department of Health for analysis in order to cope with the general problem of contamination.

We wish to note that liquid waste samples to the storm sewer which have been analyzed since December 14, 1960, have been found to be the same as instrument background. This is quite a reduction in waste concentrations released to the outside environs. Mandle said more rigid control of pH fluctuation is probably the reason for this.

We feel that a hazard exists and a follow-up inspection is required.

We recommend that a letter be sent to the licensee (R. Mandle) requiring that the aforementioned items of noncompliance be corrected.

Enclosure:
Insp. Rpt. (4 cys)