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Division of Compliance

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FINAL OAK RIDGE OPERATIONS OFFICE HEALTH AND SAFETY INSPECTION OF UNITED  
NUCLEAR CORPORATION PLANT AT HEMATITE, MISSOURI, JULY 23, 1964

The final OR health and safety review of the licensee's plant at Hematite, Missouri was conducted on July 23-24, 1964. Mr. W. Pryor and Mr. R. Hervin of OR conducted the inspection. Mr. D. Foster of Division of Compliance, Region III, and myself accompanied the OR inspectors. This memorandum is devoted primarily to the nuclear safety portion of the inspection.

Mr. Pryor made the following nuclear safety comments to the licensee management representatives during the inspection:

- (1) An attempt should be made to reduce the U-235 inventory which has steadily increased in the past two years.
- (2) In process, storage areas should be specifically marked to provide better control of SNM during storage.
- (3) ✓ Unsafe containers (mop buckets) should not be stored in the Item Plant process areas.
- (4) ✓ Emergency procedures should be updated to incorporate latest management changes.
- N.A. (5) The OR dosimeters at the plant should be returned to OR, and the licensee should obtain new dosimeters.
- (6) The Cuno filter calcining equipment should not be reused unless covered by licensee approval.
- (7) ✓ Each storage bottle should be properly labeled as to the U-235 enrichment. A couple of analytical waste bottles were noted to be deficient in this respect.

In general, I concur with Mr. Pryor's remarks.

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While dosimeters are not required by license, OR strongly recommends the licensee procure them for all work areas where OR contract operations are performed.

The main plant processing activity was limited to the Item Plant, the Pellet Plant, and some recovery work in the Red Room (highly enriched uranium processing area). The low enrichment uranium processing areas were inactive.

Mr. Swallow, the licensee's health and safety representative, stated that the method of administrative batch control for the Blue Room (low enriched uranium processing area) ammonium diuranate (ADU) precipitation step is being reviewed. This review is the result of discussions with Dr. North during the February 18-19, 1964 Compliance inspection. At that time the practice of using 5-inch diameter gas cylinders containing one safe wet batch of low enriched  $UF_6$  for connection to the ADU precipitation tanks was questioned because of the potential nuclear hazard in that a 5-inch diameter gas cylinder containing fully enriched  $UF_6$  could, through error, be connected to the feed line supplying this unsafe geometry precipitation vessel. Mr. Swallow stated that the low enriched processing line will not be activated until this problem is resolved.

A new land area has been graded, covered with gravel, fenced off, and is now being used for SNM storage. Weeds are growing up around storage bottles in the older storage area, and the new section represents a significant improvement in their outdoor storage facilities.

A large number of their processing stations and glove boxes are not posted to identify the processing station limit and current inventory. This situation was brought to Lou Swallow's attention. He stated that the process engineer was responsible for maintaining the correct SNM inventory at each processing station. However, Mr. Swallow also recognized the desirability of providing specific labeling at each processing area.

A Compliance reinspection of the licensee's plant is scheduled for September, 1964. DML is currently reviewing the licensee's application for license of the Item Plant. It is expected that all operations at Hematite will be under Regulatory review by September, 1964.

bcc: D. A. Nussbaumer, DML

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