

UNITED STATES GOVERNMENT

## Memorandum

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TO : R. G. Page, Chief, Enforcement Branch  
Division of State & License Relations  
Headquarters

FROM : Eugene J. Moretti, Radiation Specialist (Review)  
Region III, Division of Compliance, Chicago

SUBJECT: INSPECTION REPORT - NUCLEAR CONSULTANTS CORPORATION  
ST. LOUIS, MISSOURI - LICENSE NO. 24-4206-1

DATE: September 17, 1965

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Attached is the report of the reinspection of the Nuclear Consultants Corporation, St. Louis, Missouri. This inspection was conducted on an announced basis on July 26 through 28, 1965. This inspection report sets forth 7 items of noncompliance noted during the inspection. Two items of noncompliance concern overexposures, two items concern failure to report these exposures to the Commission and the individuals involved, two items concern inadequate surveys, and one item concerns the failure to determine collection efficiency of filters used in air sampling.

An inquiry memorandum was not prepared covering the overexposures noted during inspection since it is covered in detail in this report. However, an incident card will be prepared and forwarded.

It was noted during the inspection that six of the licensee's employees have thyroid counts, which when averaged over a quarter, show an I-131 concentration in excess of the 0.14 microcurie limit calculated to give the thyroid an exposure of 8 rems in any 13 consecutive weeks. Because of the health and safety aspects of these exposures, DML may wish to correspond with the licensee on this matter. Details of this condition are covered in paragraphs 62 through 64 of the report.

A review of the licensee's records of extremity exposures revealed that one of the licensee's employees, Mr. Mike Unterweger, received 15.230 rems exposure to the hands and/or forearms, plus 2, two-week film badges, that were evaluated as "Too dark to read". The licensee processes his own film badges and stated that these badge results might be interpreted as due to damaged films or exposures in excess of 10 rems. Because of the health and safety aspects of this exposure, Headquarters may wish to correspond with the licensee on this matter. Details of this condition are covered in paragraphs 59 and 60 of the report.

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When questioned concerning the concentrations of radioactive materials in the air effluent being released to the unrestricted areas from the licensee's stacks, Dr. Konneker stated that paragraph 3 of page 4, Item #13, "Facilities and Equipment", of the application dated November 30, 1964 and referenced in License Condition 15 of his license specifies that his calculations show a probable dilution of approximately  $10^3$  to  $10^4$  before reaching the ground. The licensee was cited in paragraph 68 of the report for failure to determine the collection efficiency of his filter media which in turn restricts him from determining the concentrations of materials being released. Dr. Konneker stated that although his recorded concentrations of I-131 at the release point of the stack was greater than the limits specified in Table II, Appendix B to 10 CFR 20, the  $10^3$  to  $10^4$  dilution factor keeps him well within the limits even if the collection efficiency of his filter media is quite low. If this dilution factor has, in fact, not been granted the licensee, Headquarters may wish to formulate a citation against 10 CFR 20.106(b).

The licensee was most cooperative throughout the inspection. It is recommended that the correspondence regarding this inspection be directed to Dr. W. R. Konneker, President.

This office plans no follow-up inspection.

Enclosure:

Inspection Report (1 cy)

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

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