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MEMORANDUM FOR: W. T. Crow, Section Leader
Uranium Process Licensing Section
Uranium Fuel Licensing Branch

FROM: N. Ketzlach
Uranium Process Licensing Section
Uranium Fuel Licensing Branch

SUBJECT: TRIP TO COMBUSTION ENGINEERING (CE) FEBRUARY 9-12, 1981

I Purpose

Review operations of activities of CE related to its licensed activities at the Windsor, Connecticut facility (SNM license under timely renewal) and to participate in an inspection with the Region I IE inspector of the facility.

II Place and Date

The meetings took place at the Windsor, Connecticut facility on February 9-12, 1981.

III Principal Attendees

CE: F. J. Pianki, General Manager
Fuel Fabrication

G. A. Johnstone, Supervisor
Health Physics & Safety, Nuclear Fuel Manufacturing

R. R. Rosenthal, Manager
Health Physics, Nuclear Laboratory

R. J. Klotz, Consulting Physicist
Nuclear Engineering Department

NRC: J. Roth, Region I, IE Facility Inspector

N. Ketzlach, NMSS

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IV Discussion

Discussions were held between J. Roth and N. Ketzlach relative to the CE SNM license renewal application and the current license. Emphasis was placed on the need to clarify the CE organization on the overall responsibilities for the facility and the relationship between the responsibilities for safety in Nuclear Fuel Manufacturing and in the Nuclear Fuel Laboratories. The administrative controls for safety need to be more clearly defined: The license condition section in nuclear criticality safety in the renewal application does not now contain all the required criteria for all process and storage operations.

The above and the need to follow the "Standard Format and Content For the Health and Safety Sections of Renewal Applications for Uranium Fuel Fabrication Plants" were discussed with F. J. Pianki and G. A. Johnstone. Examples of the deviations from the standard format were identified.

An inspection of the manufacturing and laboratory facilities, together with a review of the safety records and audit reports, identified several items of possible non-compliance with the existing license and emphasized the need for clarifying the CE organizational responsibilities and the administrative controls for safety of the operations. J. Roth will submit a separate inspection report.

An inspection of the facilities included a review of the proposed repackaging of uranium and thorium waste located in a wooded area of the facility. We are awaiting the requested additional information to process an amendment application for the repackaging.

Discussions with R. J. Klotz and a review of the Nuclear Safety Committee annual audit report identified the accumulation of sludges in the dilution and liquid waste retention tanks. Preliminary analyses indicate the sludges contain 3-60% enriched ^{235}U (~460 grams ^{235}U total). The SNM license authorizes a maximum enrichment of 20% ^{235}U . All the SNM, >20% ^{235}U enriched, appears to be in the dilution tanks. An investigation is currently being made by CE to determine the source of the materials in the tanks, develop a more accurate sampling program, and establish a plan of action for removal of the material from the site. It appears the source of the >20% ^{235}U enriched sludges may be the underground lines from Building 3, formerly utilized in the naval reactor program, to the waste tanks. If this is indeed the source, there may still be material in the transfer lines that may gradually be transferred to the retention and dilution tanks. The SNM license should reflect the possession of >20% ^{235}U and its subsequent handling and final disposition. This situation may possibly be present at other licensed facilities where

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equipment that was formerly used for ^{235}U materials of higher enrichments than currently authorized are present. For the time being, the CE problem is a licensing one rather than a safety issue. Based on currently available information, there is no nuclear criticality safety problem.

Buildings inspected during this trip include Building 2 (Nuclear Test Building to be used for SNM storage), Building 5 (Nuclear Laboratories), Building 6 (Contaminated Liquid Waste Vault), Building 17 (Fuel Fabrication Building), and Building 21 (Nuclear Manufacturing Warehouse).

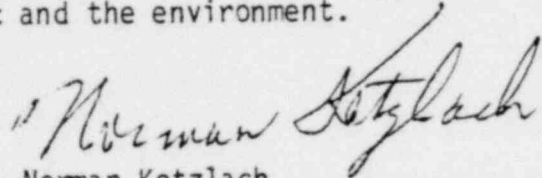
Incidentally, internal CE approval was given for the storage of $\leq 4.1\%$ ^{235}U enriched fuel in safe slab geometry in Building 2. It was pointed out to CE personnel, this is not authorized by the license for Building 2 under the control of the Nuclear Laboratories. The internal approval did not become an item of non-compliance because no fuel was stored there in accordance with the slab geometry criteria.

CE plans to apply for license amendments requesting authorization for the densification of its fuel assembly storage array and for a larger storage array for UO_2 pellets.

The review of the renewal application will continue, utilizing the information gained during the inspection of the facility and the related discussions held during the site visit.

V Conclusions

Participation with IE in the inspection of the CE facility and the related discussions held with IE and CE personnel should be helpful in the development of a renewed license whose conditions are clear, inspectable, and is adequate to protect the health and safety of the operating personnel, the public and the environment.



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