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70-36
SNM-33, Amendment No. 3

Combustion Engineering, Inc.
ATTN: Mr. H. E. Eskridge, Supervisor
Nuclear Licensing Safety
and Accountability
P. O. Box 107
Hematite, Missouri 63047

Gentlemen:

In accordance with your application dated May 31, 1984, and pursuant to Title 10, Code of Federal Regulations, Part 70, Material License No. SNM-33 is hereby amended to incorporate the "Decommissioning Plan for Evaporation Ponds." Accordingly, Condition 19 of the license is revided to read as follows:

19. The license shall decontaminate the two evaporation ponds such that the average residual contamination in each pond does not exceed the appropriate limit of either 250 picocuries of insoluble uranium or 100 picocuries of soluble uranium per dry gram of soil. The TC-99 concentrations in a composite sample for each pond shall be determined.

All other conditions of this license shall remain the same.

These conditions were discussed and agreed to by your Mr. Eskridge and Mr. George Bidinger of my staff on September 17, 1984.

Enclosed for your information is a copy of our Safety Evaluation Report.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Original Signed By
Ralph G. Page

R. G. Page, Chief
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety, NMSS

H-34

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Enclosure: As stated

*See previous concurence page

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NAME	GHBidinger	VLTharpe	JKCrow	RGPage			
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DOCKET NO: 70-36

FACILITY: Combustion Engineering, Inc. (CE)

SUBJECT: SAFETY EVALUATION REPORT, AMENDMENT APPLICATION, DATED MAY 31, 1984, RE DECOMMISSIONING PLAN FOR EVAPORATION PONDS

Background

Condition 19 of the license required CE to submit an evaporation pond decommissioning plan for the Nuclear Regulatory Commission (NRC) approval. The subject amendment application satisfies this license requirement.

Discussion

CE discontinued the use of the two evaporation ponds in 1978. Since that time, CE has removed most of the sludge which had collected on the 6-inch crushed rock base in the primary pond and some sludge from the secondary "or overflow" pond.

The remaining decommissioning activities include drying the ponds and removing the residual sludge and the rock base. A sampling plan will then be implemented. If residual activity is above the applicant's decontamination limit, the decontamination process will be repeated. After the contamination survey report is approved by the NRC, the ponds will be covered by clean overfill.

The licensee's proposed target decontamination level is 250 picocuries per gram of dry soil. This is the level for insoluble uranium specified in Option 2 of the Uranium Fuel Licensing Branch Technical Position, as published in the Federal Register on October 23, 1981. The proposed decommissioning effort would be such that if the target criteria cannot be met, residual contamination would not exceed 2500 picocuries per gram (Option 4 of Branch Technical Position). In either case, the ponds would be backfilled with 4 feet of uncontaminated fill material.

The NRC staff requires that considerable effort be made by the licensee to decontaminate the ponds to either Option 1 (suitable for unrestricted release) or Option 2. In case of Option 2, the NRC staff will require that a note is recorded on the land deed specifying the total quantity and volume of buried radioactive waste. The staff also requires that the licensee demonstrate that the uranium is insoluble or, if the uranium is soluble, apply the lower limit of 100 picocuries per gram of dry soil. Option 4 criteria is not acceptable unless a detailed cost-benefit analysis is presented and justified. Sampling of the ponds to determine residual contamination will be done in 2'x 2' grids in the small primary pond and in 3' x 3' grids in the larger secondary pond. The licensee has proposed that samples from each grid will be blended and counted for gross alpha and gross beta. For the gross alpha analyses, the staff will require that the licensee establish the relationship between gross alpha and the uranium

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concentration in soil. Because of the presence of TC-99 in some well water samples, the staff requires that all samples from each pond be composited and analysed for TC-99. Accordingly, the following license condition is recommended:

> The licensee shall decontaminate the two evaporation ponds such that the average residual contamination in each pond does not exceed the appropriate limit of either 250 picocuries of insoluble uranium or 100 picocuries of soluble uranium per dry gram of soil. The TC-99 concentrations in a composite sample for each pond shall be determined.

The actual schedule for completion is weather dependent. The decontamination will be completed by December 1988.

Conclusion/Recommendation

The decontamination plan for the two evaporation ponds is acceptable to the staff provided that Option 2 criteria in the Branch Technical Position is satisfied. Approval of the decommissioning plan, subject to the above license condition is recommended.

/s/

George H. Bidinger
Uranium Process Licensing Section
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety, NMSS

Approved by Original Signed by N. Ketzlach
W. T. Crow, Section Leader

*SEE PREVIOUS CONCURENCE PAGE

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DATE	10/2/84	10/1/84	10/2/84	10/ /84	9/ 28/84		

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DOCKET NO.: 70-36

APPLICANT: Combustion Engineering, Inc. (CE)
Hematite, Missouri

SUBJECT: CATEGORICAL EXCLUSION RE: APPLICATION DATED MAY 31, 1984 FOR APPROVAL OF POND DECOMMISSIONING PLAN

By letter dated May 31, 1984, CE requested approval of a proposed decommissioning plan for their formerly-used evaporation ponds. The plan calls for forced evaporation of the pond liquids, removal of bottom sludge and a crushed rock lining (an estimated 2,450 ft^3 of material), and decontamination of soil to established critiera. Evaporation of the diluted liquids will result in a smaller impact than that caused by routine evaporation while the ponds were in use, which itself was insignificant. The remaining solid material will be shipped to a licensed burial facility and, as conditioned in the amendment, decontamination to at least Option 2 limits of the Uranium Fuel Licensing Branch Technical Position will be required. Therefore, although minor short-term exposures of workers may result, the proposed decommissioning plan for the ponds will create a long-term environmental benefit. Accordingly, the staff has concluded that the following conditions have been met:

1. There is no significant change in the type or significant increase in the amount of any effluents that may be released offsite,

2. There is no significant increase in or cumulative occupational radiation exposure,

3. There is no significant construction impact, and

4. There is no significant increase in the potential for or consequences from radiological accidents.

Therefore, in accordance with 10 CFR 51.22(c)(11), an environmental assessment or an environmental impact statement is not warranted for this proposed action.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Original Signed by
Ralph G. Page

R. G. Page, Chief
Uranium Fuel Licensing Branch
Division of Fuel Cycle and Material Safety, NMSS

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