GPU Nuclear
P.O. Box 388
Forked River, New Jersey 08731
609-693-6000
Writer's Direct Dial Number:

August 31, 1983

Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Crutchfield:

Subject: Oyster Creek Nuclear Generating Station
Docket No. 50-219
Request for Approval of Proposed
Disposal Methods

The purpose of this letter is to apply to the Commission for approval of our proposed methods to decontaminate and dispose of licensed material, per 10 CFR 20. 302(a), as stated in IE Information Notice 83-05. Specifically, we estimate that about 5,500 cubic feet of concrete from our old radwaste building will be decontaminated in preparation for unrestricted release.

The radioactive contamination that may be present is of a surface contaminate nature rather than dispersed throughout the matrix of the concrete. It is judged that the requirements of Regulatory Guide 1.86, "Termination of Operating Licenses for Nuclear Reactors", apply to the unconditional release of this material. This Regulatory Guide allows the unconditional release of structures and components if the surfaces are surveyed and found to have surface contamination levels less than those in Table I (see Attachment).

A review by Radiological Engineering has determined the average and maximum columns of Table I should be interpreted as a scan survey. This table implies that both scans and swipe surveys must be performed. Additionally, an isotopic analysis, including transuranics (TRU), must be performed.

In light of all of the above, the following techniques are proposed:

1. Perform a total isotopic analysis (including TRU) on a core boring of concrete whose surface has been decontaminated.

2. Scan survey each removed section with Alpha and Beta/Gamma survey equipment.

3. Perform a swipe survey for each section removed and count for Beta/Gamma. Every tenth swipe should be counted for Alpha.

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4. Any portions of the removed sections exceeding the criteria of Table I should be disposed of as radiological waste. Released portions should be disposed of as unrestricted releasable material.

Sample and survey results of concrete surfaces are not available. However, using the criteria of Table 1 core bore samples and surface swipes will be analyzed to determine compliance with this table. Samples will be sent off-site to confirm on-site analyses.

While GPU Nuclear is not seeking the termination of Oyster Creek's operating license at this time, no other regulatory guidance was found that was more appropriate than Regulatory Guide 1.86 for the decontamination and unrestricted removal of the material in question. That is the only reason for choosing this Regulatory Guide.

If you have any questions, please contact me or Mr. Michael Laggart of my staff at (609) 971-4643.

Very truly yours,

Peter B. Fiedler
Vice President and Director
Oyster Creek

PBF:RPJ:dam
Attachment

cc: Mr. J. Lombardo
U. S. Nuclear Regulatory Commission
7920 Norfolk Avenue
Bethesda, MA 20014

Dr. Thomas E. Murley, Administrator
Region I
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

NRC Resident Inspector
Oyster Creek Nuclear Generating Station
Forked River, NJ 08731

ATTACHMENT

TABLE I

ACCEPTABLE SURFACE CONTAMINATION LEVELS

NUCLIDE[a]	AVERAGE[b c]	MAXIMUM[b d]	REMOVABLE[b e]
U-nat, U-235, U-238, and associated decay products	5,000 dpm α/100 cm^2	15,000 dpm α/100 cm^2	1,000 dpm α/100 cm^2
Transuranics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	100 dpm/100 cm^2	300 dpm/100 cm^2	20 dpm/100 cm^2
Th-nat, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	1000 dpm/100 cm^2	3000 dpm/100 cm^2	200 dpm/100 cm^2
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted above.	5000 dpm β-γ/100 cm^2	15,000 dpm β-γ/100 cm^2	1000 dpm β-γ/100 cm^2

[a]Where surface contamination by both alpha- and beta-gamma-emitting nuclides exists, the limits established for alpha- and beta-gamma-emitting nuclides should apply independently.

[b]As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

[c]Measurements of average contaminant should not be averaged over more than 1 square meter. For objects of less surface area, the average should be derived for each such object.

[d]The maximum contamination level applies to an area of not more than 100 cm^2.

[e]The amount of removable radioactive material per 100 cm^2 of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of less surface area is determined, the pertinent levels should be reduced proportionally and the entire surface should be wiped.