

original concurrence to  
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Docket 70-754  
NMSS R/F  
FCAF R/F  
LCRouse ✓  
RTKratzke  
LA File  
IE: Region V

Docket 70-754

AUG 11 1982

MEMORANDUM FOR: Herbert E. Book, Chief  
Radiological Safety Branch  
Region V

FROM: Leland C. Rouse, Chief  
Advanced Fuel and Spent Fuel Licensing Branch  
Division of Fuel Cycle and Material Safety, NMSS

SUBJECT: CONFIRMATORY SURVEY OF GENERAL ELECTRIC COMPANY - VALLECITOS  
PLUTONIUM FACILITIES

We have been informed that GE has completed decontamination activities for its Advanced Fuels Laboratory and Plutonium Analytical Laboratory in Building 102 at the Vallecitos site and that the GE survey results have been provided to your office. We understand that these areas, which were used in connection with past plutonium fuel processing and fabrication operations, have been decontaminated to levels at or below those specified for plutonium in the enclosed "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source of Special Nuclear Material."

Ge has no known plans for further plutonium activities in these areas, but we are aware that GE plans to use the rooms for research and development activities on uranium fuels; thus, GE has not requested release for unrestricted use or license termination. However, modification of the areas for future activities includes new floor tiling and painting of walls. Accordingly, as you and I have discussed, we believe that a confirmatory survey of these areas by Region V is appropriate, prior to the renovations mentioned above, to confirm that plutonium decontamination has been accomplished as stated by the licensee.

Plutonium decontamination requirements, of course, are significantly more restrictive than those for uranium and documentation that the plutonium levels have been met will be of benefit in any future request for release of the facility. Confirmatory survey results also will be of use in connection with the ongoing license renewal action and possible proceedings

XA Copy Has Been Sent to PDR

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OFFICE ▶							
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DATE ▶							

Herbert E. Book

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AUG 11 1982

In connection with this action. Therefore, we request that you arrange to conduct appropriate confirmatory surveys of the areas and provide the resulting documentation to us for docket filing.

If you have any questions concerning this request, please contact me.

ORIGINAL SIGNED BY:

Leland C. Rouse, Chief  
Advanced Fuel and Spent Fuel  
Licensing Branch  
Division of Fuel Cycle and  
Material Safety, NMSS

Enclosure:  
Guidelines

cc: R. E. Cunningham

OFFICE	FCAF						
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GUIDELINES FOR DECONTAMINATION OF FACILITIES AND EQUIPMENT  
PRIOR TO RELEASE FOR UNRESTRICTED USE  
OR TERMINATION OF LICENSES FOR BYPRODUCT, SOURCE,  
OR SPECIAL NUCLEAR MATERIAL

U. S. Nuclear Regulatory Commission  
Division of Fuel Cycle and Material Safety  
Washington, D.C. 20555

July 1982

~~82-823-93~~ XA

The instructions in this guide, in conjunction with Table 1, specify the radionuclides and radiation exposure rate limits which should be used in decontamination and survey of surfaces or premises and equipment prior to abandonment or release for unrestricted use. The limits in Table 1 do not apply to premises, equipment, or scrap containing induced radioactivity for which the radiological considerations pertinent to their use may be different. The release of such facilities or items from regulatory control is considered on a case-by-case basis.

1. The licensee shall make a reasonable effort to eliminate residual contamination.
2. Radioactivity on equipment or surfaces shall not be covered by paint, plating, or other covering material unless contamination levels, as determined by a survey and documented, are below the limits specified in Table 1 prior to the application of the covering. A reasonable effort must be made to minimize the contamination prior to use of any covering.
3. The radioactivity on the interior surfaces of pipes, drain lines, or ductwork shall be determined by making measurements at all traps, and other appropriate access points, provided that contamination at these locations is likely to be representative of contamination on the interior of the pipes, drain lines, or ductwork. Surfaces of premises, equipment, or scrap which are likely to be contaminated but are of such size, construction, or location as to make the surface inaccessible for purposes of measurement shall be presumed to be contaminated in excess of the limits.
4. Upon request, the Commission may authorize a licensee to relinquish possession or control of premises, equipment, or scrap having surfaces contaminated with materials in excess of the limits specified. This may include, but would not be limited to, special circumstances such as razing of buildings, transfer of premises to another organization continuing work with radioactive materials, or conversion of facilities to a long-term storage or standby status. Such requests must:
  - a. Provide detailed, specific information describing the premises, equipment or scrap, radioactive contaminants, and the nature, extent, and degree of residual surface contamination.
  - b. Provide a detailed health and safety analysis which reflects that the residual amounts of materials on surface areas, together with other considerations such as prospective use of the premises, equipment or scrap, are unlikely to result in an unreasonable risk to the health and safety of the public.

5. Prior to release of premises for unrestricted use, the licensee shall make a comprehensive radiation survey which establishes that contamination is within the limits specified in Table 1. A copy of the survey report shall be filed with the Division of Fuel Cycle and Material Safety, USNRC, Washington, D.C. 20555, and also the Administrator of the NRC Regional Office having jurisdiction. The report should be filed at least 30 days prior to the planned date of abandonment. The survey report shall:

- a. Identify the premises.
- b. Show that reasonable effort has been made to eliminate residual contamination.
- c. Describe the scope of the survey and general procedures followed.
- d. State the findings of the survey in units specified in the instruction.

Following review of the report, the NRC will consider visiting the facilities to confirm the survey.

TABLE 1  
ACCEPTABLE SURFACE CONTAMINATION LEVELS

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

<sup>a</sup>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.

<sup>b</sup>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.

<sup>c</sup>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.

<sup>d</sup>The maximum contamination level applies to an area of not more than 100 cm<sup>2</sup>.

<sup>e</sup>The amount of removable radioactive material per 100 cm<sup>2</sup> 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.

<sup>f</sup>The average and maximum radiation levels associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/hr at 1 cm and 1.0 mrad/hr at 1 cm, respectively, measured through not more than 7 milligrams per square centimeter of total absorber.