

November 27, 1996

Elick Acree  
Gamma Industries  
A Division of Gulf Nuclear, Inc.  
2525 Battleground Road  
Deer Park, Texas 77536

SUBJECT: INSPECTION NO. 030-13089/96-001

Dear Mr. Acree:

This letter forwards the "Radiological Survey of the Former Gamma Industries Site, Port Norris, New Jersey." This survey reports the results of the radiological survey of your site in Port Norris, New Jersey, performed by the staff of Oak Ridge Institute for Science and Education for the Nuclear Regulatory Commission in July of 1996. The survey identified a number of areas, which are outlined below, that do not meet NRC criteria for release for unrestricted use. Please provide your decommissioning and final site survey plan for the site. The plan should specifically address each of the areas and concerns outlined above. The enclosed NUREG/CR 5849 provides an outline of the information that should be in your decommissioning and final site survey plan.

HOT CELL

1. The average of the fixed beta measurements taken of the lower walls of the cell is 9300 disintegrations per minute/100 square centimeters (dpm/100 cm<sup>2</sup>). The NRC release criterion is 5000 dpm/100 cm<sup>2</sup>.
2. The single measurement taken on the upper walls and ceiling was 5000 dpm/100 cm<sup>2</sup> which is at the release criterion. Additional sampling should be performed to demonstrate that the upper walls and ceiling meet the release criterion.
3. Soil from a location along the northern wall of the cell was sampled at 0-15 cm and 15-30 cm. The results are 73 picocuries per gram (pCi/gm) and 66 pCi/gm of cobalt 60. The release criterion for cobalt 60 (Co-60) in soil is 8 pCi/gm. In your response, please indicate how you will ensure that the soil remaining after decontamination efforts are completed in this area of contamination satisfies the release criterion.

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AREA NORTHEAST OF THE BUILDING

4. This area exhibited elevated readings during the exterior area scans. Samples were taken at 0-15 cm, 15-30 cm, and 30-45 cm. Analysis of the samples provided the following results:

0-15 cm	0.3 pCi/gm of Co-60
15-30 cm	12 pCi/gm of Co-60
30-45 cm	47 pCi/gm of Co-60

The two deeper samples are above the release criterion of 8 pCi/gm for Co-60 in soil. A review of records of the past decommissioning activities at the site revealed that drums of contaminated waste had been removed from a number of areas onsite and immediately offsite. These drums were rusted and contained water which could indicate that the drums were not able to prevent the spread of contamination. The fact that only the two deeper samples contained appreciable amounts of Co-60 raises a concern that this contamination is from a drum that has already been removed. Consequently the NRC is concerned that all the areas where drums were removed, may have subsurface soil contamination. Your response to this letter should specifically state how you intend to address this issue.

EMERGENCY SHOWER

5. This area exhibited elevated readings during the interior scans and also is an area of past decontamination activities. A surface sample was taken of the floor of the area that contained your emergency shower. Analysis of the sample demonstrated that it contains 25.5 pCi/gm of Co-60.

EAST ROOM AREA

6. A section of the floor in the east room which was removed during past decommissioning activities had elevated readings during the interior scans. Two samples were taken of this location, one at 0-15 cm and the other at 15-30 cm. The analysis of these samples demonstrates that the 0-15 cm sample contains 20.8 pCi/gm and the 15-30 cm sample contains 9.4 pCi/gm of Co-60.

WEST ROOM AREA

7. Two soil samples were also taken from a hole in the floor along the wall of the office area. The samples were taken at 0-15 cm and 15-30 cm. The results of analysis were 9.2 pCi/gm Co-60 for the 0-15 cm sample and 9.0 pCi/gm Co-60 for the 15-30 cm sample.

Gamma Industries, Inc.

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Steve Shaffer of my staff shall be contacting you within two weeks in order to set up a telephone conference to discuss the time table of your decommissioning activities. Your cooperation with us is appreciated.

Sincerely,

Original Signed By:  
[Signature]

Ronald R. Bellamy, Chief  
Decommissioning and Laboratory Branch  
Division of Nuclear Materials Safety

Docket No.: 030-13089  
License No.: 17-16109-01

enclosures:

1. Radiological Survey of the Former Gamma Industries Site, Port Norris, New Jersey
2. Manual for Conducting Radiological Surveys in Support of License Termination (NUREG/CR 5849)

cc(w/enclosures):

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Shieldalloy Metalurgical Corporation  
West Boulevard  
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