



DEPARTMENT OF THE ARMY  
HEADQUARTERS, US ARMY COMMUNICATIONS-ELECTRONICS COMMAND  
AND FORT MONMOUTH  
FORT MONMOUTH, NEW JERSEY 07703-5000

REPLY TO  
ATTENTION OF

March 26, 1998

29-01022-06  
030-05248

Director of Safety Risk Management

Mr. Ron Bellamy  
US Nuclear Regulatory Commission  
Region 1  
475 Allendale Road  
King of Prussia, PA 19406

Dear Mr. Bellamy:

References:

a. Discussion between Mr. Joseph Santarsiero, this Directorate and Mr. Steven Shaffer, your office, March 19, 1998, subject: Current Status of Camp Evans Radiological Closure.

b. Radiological Survey Report US Army Evans Area, Fort Monmouth/Wall Township, NJ, July 1997, "Radiological Status Survey of Farmhouse Area, Sewage Treatment Plant, Residents and Associated Buildings, August 1996 - July 1997."

As discussed during the March 19, 1998 Materials Decommissioning Workshop, while conducting a review of historical data to ensure that buildings at Camp Evans were given the proper initial survey classification, additional references to the Farmhouse Area and Sewage Treatment Plant were discovered. As you may recall, these areas are designated Zones 1 and 1A, respectively, and are located outside of the fenced area. The documents reviewed were "Monthly Health Physics Reports" from the 1950's.

The following comment mentioning the sewage system was recorded in the health physics report for January 1952, under the heading 'Miscellaneous':

"A report covering the inspection by the Surgeon General's office of the new radiochemical laboratory was received. The following important recommendations were made:

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a. A change room must be incorporated if activities above tracer levels are to be used.

b. Procurement of protective clothing and shoes.

c. A waste monitoring system and waste disposal system must be installed to insure that activities above tolerance are not injected into the sewage system."

A comment mentioning the Farmhouse Area was recorded in the health physics report for October 1952, under the heading 'Weekly Nucleonic Branch Survey':

"The 5.5 curie Cobalt 60 source has been transferred from the "Farmhouse" Area to the Shield."

The "new radiological laboratory" mentioned in the Surgeon General's report was located in building 9045. The first two recommendations in this report were adopted. The recommended monitoring system was not installed, rather two 550 gallon hold-up/dilution tanks were installed. Prior to discharge to the sewer these tanks are analyzed for specific activity (microcuries(uCi) per milliliter) and a total activity released calculated.

The sewage treatment plant operated for approximately thirty years (1949/50 to 1980). The release log for the hold-up/dilution tanks for building 9045 and 9401 was not started until 1966 and is in use today. During the fourteen years of sewage treatment plant operation covered by the release log, only two activity releases are recorded. Both of the activity releases are recorded on the same page of the release log. These were not noted during our initial review of the log. One release reports less than 2 uCi of activity (no isotope identified) on 10 Jan 74. The second entry reported release of 400 uCi of tritium on 19 Jul 75.

The 10 Jan 75 entry appears to be the result of a change of personnel recording the releases. The specific activity recorded for the release is  $9.0E-7$  uCi per milliliter. This is below the lower detection limits for the current counting equipment and methods used to analyze these tanks for gross alpha and beta activity. The initials "WSF" of the individual performing the release only appear on three log entries dated 6 Dec 73; 12 Dec 73; and 10 Jan 74. The 10 Jan 74 total activity release reported is the product of the specific activity ( $9.0E-7$  uCi/ml) times the total volume released, i.e., 460 gallons.

Based on all other entries in this logbook, this activity release is most probably not a release of licensed radioactive material. It appears to be the product of a conservative calculation using a specific activity below the lower limit of detection of the laboratory counting equipment.

The 400 uCi tritium release of 19 July 1975 appears to be a planned release of licensed radioactive material. This is not noted in the log, but the entries do show the hold-up/dilution tanks were sampled on 23 June 1975, specific activity is logged as zero and no release took place. On 19 July 1975 the recorded activity of Tank #1 is  $5.0E-4$  uCi/ml in a volume of 200 gallons. This is the only reported release of tritium while the sewage treatment plant was operating.

In the body of reference b, Section 5. BACKGROUND, paragraph c. Identifying Potential Contaminates., paragraph (2), the justification for surveying the sewage treatment plant as unaffected was based on the lack of release documentation for the period of operation in the 1950's and 1960's. This section also contains the statement "the release log for these tanks does not show any release of radioactive material." The two recorded releases found during this follow-up review do not warrant a change of the survey classification for the sewage treatment plant. The classification as unaffected resulted in a survey of the sewage treatment plant which involved a scan of the area for elevated gamma dose rates, sampled water from the process tanks, 26 soil samples, and 4 sediment pond bottoms. Mr. Shaffer also collected samples in the sewage treatment plant area which were analyzed by the NRC. All survey results were negative.

The single comment related to the transfer of a 5.5 Ci cobalt-60 source from the Farmhouse Area to the shield in Oct 52 does not alter the information that was provided in our final report. It does indicate that one of the structures in the Farmhouse Area was used for storage of a Co-60 source. Based on the limited information available for this area, the initial classification for the structures and land was unaffected and scanning for elevated gamma dose rates was performed both in structures and over the open land. Soil samples were collected and wipe samples taken in all structures. The survey results were all negative.

Had we been aware of the 1974 and 1975 releases, and the reference to the 5.5 Ci cobalt-60 source at the Farmhouse Area, we would not have conducted our surveys of the areas differently

in any way. Accordingly, our belief is that they have no material impact on our reference b report.

We are coordinating with Mr. Shaffer to have him visit us again. We will answer any questions you may have or provide any information you may deem necessary in this matter at that time.

Our point of contact is Mr. Joseph Santarsiero or the undersigned at (732) 427-3112, ext 6427 and 6401, respectively.

Sincerely,



Steven A. Horne  
Director, Safety  
Risk Management

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