

To DCS 11/17/82
Return to L Jagan 396-55

NOV 18 1982

FCUP:WTC
70-820

Mr. Michael Williams
RFD No. 1
Bradford, RI 02808

Dear Mr. Williams:

This is in response to your letter dated August 13, 1982, in which you requested that I check with Oak Ridge Associated Universities (ORAU) concerning the results of the analysis they performed on your well water as well as information on the source of manganese detected in the United Nuclear Corporation's (UNC) lagoons.

I have spoken to Mr. Berger of ORAU and he assured me that the results of the analysis of your water were mailed to you early in September. I apologize for the delay.

Regarding the manganese detected in the UNC lagoons, analytical results of the liquid in the lagoons have indicated that Manganese-54 (Mn-54) was present. This is to be expected since Mn-54 is an activation product from a nuclear reaction and it has been established that UNC did recover uranium from fuel elements that had been used in zero power reactors. As to the total quantity of Mn-54 present, it is very difficult to estimate because the quantity was extremely small.

Concerning your questions as to why Mn-54 was not mentioned as a contaminant in the aquifer, Mn-54 is a gamma emitter and the presence of it along with other gamma emitters would be indicated in the gross gamma analysis of the water. Most of the analytical data indicate that no detectable gamma emitting radionuclides were present; however, the presence of Mn-54 was identified in at least 12 water samples analyzed by UNC since 1980. The maximum concentration noted in these samples was 203 picocuries per liter. This concentration can be compared to the maximum permissible concentration (MPC) of 10,000 picocuries per liter Mn-54, allowed by NRC regulations in liquids discharged to unrestricted areas and 300 picocuries per liter allowed

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Mr. Michael Williams

2

in EPA's "National Interim Primary Drinking Water Regulations." Also I should note that the analysis for Mn-54 can be complicated by the presence of other radionuclides and the above analysis could be biased high. The NRC sampled the wells in July 1982 and all samples were analyzed specifically for Mn-54. The results of these analyses have just been received and no Mn-54 was detected.

I trust these responses have addressed your concerns.

Sincerely,

151

W. T. Crow, Section Leader
Uranium Process Licensing Section
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety, NMSS

Distribution: FCUP-76

Docket File 70-820

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