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Georgia Power

Edwin I. Hatch Nuclear Plant

February 15, 1983
GM-83-141

PLANT E. I. HATCH
Licensee Event Report
Docket No. 50-321

United States Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region II
Suite 3100
101 Marietta Street
Atlanta, Georgia 30303

ATTENTION: Mr. James P. O'Reilly

Pursuant to Section 6.9.1.9.d of Plant Hatch Unit I Technical Specifications and Sections 3.2 and 5.7.2 of the Hatch Unit 1 Environmental Technical Specifications, please find the attached Supplemental Narrative Summary to Reportable Occurrence Report No. 50-321/1979-021, Rev. 5. The attached report provides supplemental information to the previous submittal of this LER.

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January 31, 1983

SUPPLEMENTAL NARRATIVE SUMMARY
TO
LER 50-321/1979-021, REV. 5
EDWIN I. HATCH NUCLEAR PLANT - HATCH 1
NONROUTINE RADIOLOGICAL ENVIRONMENTAL OPERATING
ANOMALOUS MEASUREMENT REPORT

This report which supplements the previous submittals on LER 50-321/1979-021 provides updated data on tritium levels in groundwater samples taken from locations where the average value during the fourth quarter of 1982 exceeded 3.0 E4 pCi/l which is the report level for tritium in environmental water samples according to Table 3.2-3 of the ETS. There continues to be no significant impact on the public health and safety due to these readings which exceeded the report level. As reported previously, any releases to unrestricted areas are through the outfalls of the drainage system; such releases continue to be small and result in nonsignificant doses to the public.

The high tritium levels are found in two separate areas of the plant yard - the CST-1 area and the area near the NE corner of the Unit 1 turbine building. These areas appear to be essentially unrelated to each other in that the causes of the high tritium levels are different and there appears not to be a good hydraulic connection between the two areas. The tritium levels found in all samples gathered at the reportable locations during the fourth quarter along with a complete listing of the past average quarterly levels for these locations are presented in Tables 1 and 2.

The reportable locations (Test Holes P16, T12 and T18) for the CST-1 area are presented in Table I. Test Hole P16 was actually dry for the entire quarter. The levels at Test Hole T12 have again become reportable after being a little below the report level for two quarters. The levels at T18 show a slight increase.

The reportable locations (Test Holes N9B, T3 and T4, and the steam pipe chase for the auxiliary boiler) for the area in the vicinity of the NE corner of the Unit 1 turbine building are given in Table 2. The average levels at N9B and T4 continued to show slight declines. The levels at T4 and the steam pipe chase have again become reportable after being below the report level for 9 and 1 quarters respectively.

The high tritium levels in the area north of the Unit I turbine building was initially attributed to process water releases from an open-ended line near P17B. This source was eliminated at the time of its discovery in March 1979. Judging by the rise and subsequent decline of readings in succession at P17B, T4 and N9B and by the results of dye tests, the main body of this tritiated water appeared to have migrated to the vicinity of the NE corner of the Unit 1 turbine building. Test Hole N9B is located at this corner. The resurgence of the level at T4 might be attributed to a slight shift of the main body of this tritiated groundwater.

As reported in the update for the second quarter of 1982, an explanation of the sudden increases in the levels at N9B and T3 which had occurred in the first quarter was provided by the discovery of a new source of tritium. The Unit 1 precoat tank of the condensate polisher system located near the north wall of the turbine building on the 130 foot level had overflowed; the spillage flowed across the floor to the north wall of the building, under the wall panel to the outside of the building, collecting in the steam pipe chase for the auxiliary boiler. Open joints between the pipe chase and the turbine building basement wall would likely provide an easy path to the area of N9B and T3.

On May 4, before the open portion of the turbine wall was sealed, the tritium level in the pipe chase was 2.80 E5 pCi/l. After sealing the wall the readings were 2 to 3 orders of magnitude lower, until October 19 when the reading jumped to 1.97 E5 pCi/l. The tritium level in the pipe chase then showed a steady decline to several thousand pCi/l which might be considered as normal for this location.

The pipe chase had been pumped out sometime before September 11; it was not pumped out again until December 12. Gamma scans were run on samples from the pipe chase on September 11, October 23, November 2 and 9, and December 12. Naturally occurring K-40 was the only radionuclide identified. These scans were for 3000 seconds on the GeLi detector except for the October 23 sample which was for 1000 seconds.

In January the contract lab was requested to run gamma scans on the samples taken on October 19 and November 2. These scans were for 30,000 seconds; the results in pCi/l for the dates of collection were as follows:

Radionuclide	10/19	11/02
Mn 54	2.31 E2	
Co 58	6.02 E2	
Co 60	7.07 E2	
Zn 65	3.79 E3	1.76 E2
Cs 134	1.89 E2	
Cs 137	3.21 E2	

It appears that condensate water may be present in these samples. An investigation has not yet determined how condensate water could have gotten into the pipe chase.

To become more vigilant of any sudden increases in the radiological levels in the pipe chase in the future, 3000 second gamma scans will be taken each time samples are collected for tritium analysis.

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Table 1

High Tritium Levels in CST-1 Area

pCi/l

Qtr or Date	P16	T12	T18
	QUARTERLY AVERAGE		
2-78	1.44 E5		
3-78	1.54 E5		
4-78			
1-79	1.26 E5		
2-79	9.60 E4	1.46 E4	6.68 E4
3-79	7.08 E4	7.83 E2	7.61 E4
4-79	6.38 E4	9.31 E4	6.84 E4
1-80	9.18 E4	7.92 E4	8.71 E4
2-80	1.12 E5	1.55 E4	6.36 E4
3-80	dry	1.07 E4	7.61 E4
4-80	dry	5.22 E3	5.91 E4
1-81	6.22 E4	7.41 E3	8.29 E4
2-81	5.73 E4	1.14 E3	7.77 E4
3-81	8.55 E4	1.96 E5	1.27 E5
4-81	dry	4.64 E4	1.27 E5
1-82	1.26 E5	1.07 E5	1.29 E5
2-82	dry	2.71 E4	1.56 E5
3-82	1.64 E5	2.06 E4	9.33 E4
4-82	dry	5.27 E4	1.02 E5
	During Fourth Quarter 1982		
10/19	dry	4.74 E4	9.59 E4
11/02	dry	5.27 E4	1.08 E5
12/03		5.81 E4	
12/07	dry		dry

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Table 2

High Tritium Levels Near NE Corner of the Unit 1 Turbine Building

pCi/l

Qtr or Date	N9B	T3	T4	Pipe Chase
		QUARTERLY AVERAGES		
3-78	3.45 E3			
4-78	4.49 E3			
1-79	3.42 E4			
2-79	8.50 E4	1.19 E4	9.70 E4	
3-79	1.38 E5	1.28 E4	1.64 E5	
4-79	1.71 E5	2.01 E4	1.48 E5	
1-80	1.73 E5	2.47 E4	9.54 E4	
2-80	1.79 E5	3.92 E4	3.03 E4	
3-80	1.64 E5	4.60 E4	5.18 E3	
4-80	1.13 E5	4.29 E4	1.01 E4	
1-81	1.06 E5	4.80 E4	8.91 E3	
2-81	8.17 E4	5.55 E4	8.41 E3	
3-81	8.47 E4	4.74 E4	5.19 E3	
4-81	9.77 E4	5.29 E4	9.51 E3	
1-82	4.20 E5	1.10 E5	2.82 E3	
2-82	4.42 E5	1.13 E5	1.60 E3	4.09 E4
3-82	3.64 E5	4.34 E4	1.01 E3	1.73 E4
4-82	3.12 E5	3.92 E4	3.28 E4	3.06 E4
		During Fourth Quarter 1982		
10/06	2.86 E5	3.73 E4		
10/19	2.68 E5	6.03 E4		1.97 E5
11/02	2.55 E5	2.72 E4		3.13 E4
11/09				1.31 E4
11/16	3.49 E5	3.00 E4		1.25 E4
11/23				1.08 E4
11/30	3.32 E5	3.48 E4		7.01 E3
12/03			3.14 E4	
12/07	3.18 E5			1.03 E4
12/14	3.32 E5	4.08 E4		9.03 E3
12/21			3.41 E4	6.46 E3
12/28	3.59 E5	4.56 E4		8.19 E3

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