

ACP 1.2-16.5  
Rev. 8 Major

Attachment 1  
Condition Report  
Initiation Form  
CR No. 01-0388

Provide the following information to the best of your ability. Provide enough information so the issue can be understood by others who will review it. Refer to instructions following this form.

**CAUTION**

*If you believe the condition could have an immediate effect on plant safety, the ability of plant equipment to operate properly, or someone could be injured if the issue is not addressed immediately, NOTIFY your supervisor or the Shift Manager in the Control Room Immediately.*

**Condition Information Initiator completes blocks 1 - 10. Print all information.**

1. Describe the condition: **Additional Groundwater Sample Results Received**

Unexpected analysis results have been received from the most recent round of groundwater monitoring samples. In contrast to prior sampling campaigns, analysis was conducted for an expanded range of radionuclides. Analysis of samples from four monitoring locations has shown detectable levels of Strontium-90 or Technetium-99. These monitoring locations are within the Radiological Control Area. No other radionuclides were detected in these wells with the exception of tritium which has been detected at these location during previous sampling.

2. What initial actions were taken as a result of the condition?

In order to determine the extent of the apparent condition, we have taken a sample at the Mat Sump and have sent it to an off-site laboratory for special analysis for all radionuclides which have been detected at monitoring locations. An additional round of groundwater samples is scheduled for the near future. These additional samples, taken from the locations in question, will be analyzed for Alpha and Hard to Detect Radionuclides along with analysis for tritium and gamma radionuclides.

3. What do you know or suspect was the cause of the condition?

Unknown

4. What do you recommend as corrective action(s)?

CR is to report an unexpected condition. Analysis protocol for samples at other groundwater monitoring locations should be reviewed.

5. Initiated By (Print Name): Ext. # if available CY Dept.: Safety Oversight  
Richard N. McGrath 3573 Bechtel Dept.

6. Date/Time:  
9/24/01 / 14:10

7. Units Affected:  CY  Yankee Rowe  Maine Yankee

8. What structures, systems, and components are affected? None

9. Is material being held? Yes  No  
Sample consumed by analysis protocol  
Where is material being held? N/A

10. Do you want written feedback on action taken? Yes  No

11. Supervisor Signature: (Optional) \_\_\_\_\_

Supervisor Comments: \_\_\_\_\_

A-301

Connecticut Yankee Atomic Power Company  
 Summary - Groundwater Analyses  
 Plant-related Alpha Spectroscopy and Hard To Detect Radionuclides

June 2001

Radionuclide	Monitoring Well Location								
	MW-103D	MW-103S	MW-105S	MW-106S	MW-109D	MW-110D	MW-111S	MW-201	MW-207
Americium 241	<0.22	<0.33	<0.22	<0.31	<0.32	<0.31	<0.26	<0.30	<0.21
Technetium-99 (liquid scintillation)	3.9 J	<3.8	<4.2	<4.1	<4.8	<4.1	<3.9	<3.8	<4.6
Strontium-90 (905.5 by GPC)	<0.69	2.55 J	129 */120	6.6	<0.82	<0.81	<0.68	<0.63	<1.3
Strontium-89 (905.5 by GPC)	<0.9	<0.81	<1.0	<1.8	<1.4	<1.2	<1.0	<1.0	<2.1
Nickel-63	<16.6	<14.7	<16.8	<15.2	<15.0	<17.1	<15.8	<17.8	<18.2
Iron-55	<49.7	<49.2	<53.5	<49.8	<51.4	<50.8	<50.9	<53.6	<50.5
Plutonium-241 (liquid scintillation)	<14.8	<11.6	<12.5	<11.9	<13.2	<16.9	<13.4	<9.22	<9.68
Plutonium-238 (Alpha Spec)	<0.16	<0.13	<0.13	<0.13	<0.21	<0.17	<0.15	<0.30	<0.19
Plutonium-239/40 (Alpha Spec)	<0.29	<0.13	<0.19	<0.19	<0.14	<0.26	<0.22	<0.20	<0.28
Curium 243 (Alpha Spec)	<0.16	<0.16	<0.22	<0.19	<0.26	<0.15	<0.17	<0.15	<0.14
Curium 244 (Alpha Spec)	<0.12	<0.14	<0.12	<0.23	<0.14	<0.18	<0.20	<0.12	<0.19

Notes: Bold values represent detections.

All reported concentrations are in picocuries per liter (pCi/L)

<0.22: represents less than the MDC value.

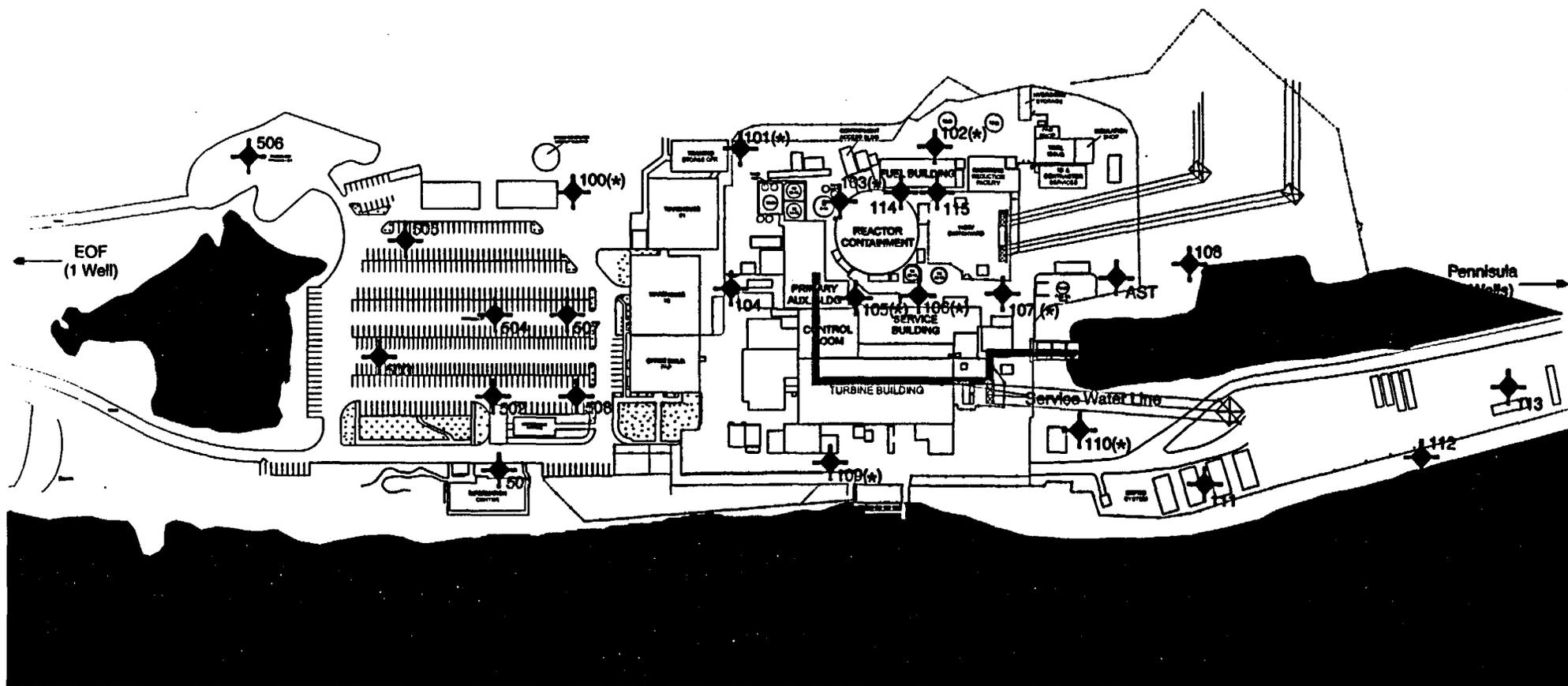
J: Represents estimated value, greater than sample detection limit but less than reporting limit.

129 \* : MW-105S sample result was re-evaluated for Strontium 90. The re-analysis was returned at 120.

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# GROUNDWATER MONITORING

Rifle Range  
(8 Wells)



Well Location = ◆

Shallow and Deep Well Location = ★