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AR 00248494 Report

Aff Fac:	Dresden	**AR Type:**	CR	**Status:**	APPROVED
Aff Unit:	00	**Owed To:**	A8330PRCAP	**Due Date:**	06/01/2005
Aff System:	00			**Event Date:**	07/31/2004
CR Level/Class:	3/B			**Disc Date:**	08/30/2004
How Discovered:	H02			**Orig Date:**	08/30/2004

Action Request Details

Subject: HIGH TRITIUM ACTIVITY IN ON-SITE WELLS AND STORM DRAINS

Description: Originator: JONATHAN R KALB Supv Contacted: Dan Malauskas

Condition Description:
Tritium activity as high as 6,125,891 (6.13E+06) pCi/L has been detected in on-site tritium monitoring wells in the vicinity of the 2/3 Reactor Building Trackway Interlock near the Unit 3 LPCI Suction Line from Condensate Storage Tank 'B.' The wells were sampled on 7-31-04. The following preliminary results were received from Environmental, Inc.on 8-26-04:
Well Tritium specific activity (pCi/L)
W-3 6,125,891
W-1 3,613,931
T-6 1,960,331
T-7 377,168
T-5 41,662
T-3 38,885

Re-analysis of the samples was directed at that time, including gamma spectroscopy analysis for gamma-emitting nuclides. The Environmental, Inc. Program Coordinator was contacted on 8-30-04, and preliminary re-analysis results confirmed the high levels of tritium.

Tritium was also detected in a storm sewer located northeast of Unit 1 (DSP-132). Initial analysis results are 79,351 pCi/L.

The wells above are the shallow (baby) wells. The W- wells are located on the west side of the 2/3 Rx Building Trackway, the T- wells are on the east side.

Immediate actions taken:
When the high results were communicated to the site, the use of proper sample preparation techniques (distillation) was confirmed and re-analysis of the samples for tritium and re-sampling of the wells for tritium analysis was directed. Existing samples that indicated greater than 20,000 pCi/L tritium were requested to be analyzed for gamma-emitting nuclides by gamma spectroscopy. The wells were re-sampled on 8-28-04 by Environmental, Inc.

Recommended action is to investigate the source of the tritium, including the Unit 3 LPCI suction line. Hydrostatic testing may indicate the system that is leaking. Testing of site domestic water for tritium is also recommended.

C-22

What activities, processes, or procedures were involved?
Tritium sampling was being performed to determine if the recent earthquake had any adverse effect on the plant.

Why did the condition happen?
Indeterminate until further testing is performed. The likely cause is a leak in an underground pipe that contains radioactive plant fluids. Reactor water tritium levels are 9 to 10 million pCi/L.

What are the consequences?
Because tritium is a low-energy pure beta emitter, this is not a dose issue. This occurrence should be evaluated for impact on the 10CFR50.75(g) files from the previous occurance of this nature. If excavations are performed, the dirt removed should be used to fill the hole to prevent an excessive site inventory of radioactive dirt. Because there is no valid pathway to drinking water systems, the EPA limit for tritium in drinking water is not impacted.

Were any procedural requirements impacted?
None. On-site tritium sampling is not required per plant procedures.

Were there any adverse physical conditions?
The recent earthquake may have contributed to an underground piping failure.

List of knowledgeable individuals:
Ellen Saar, Environmental, Inc.
Dan Malauskas, Acting Chemistry Manager
Steve Bell, RP

Repeat or similar condition?
The HPCI test underground return line failed in 1994, resulting in elevated tritium in the test wells (as high as 200,000 pCi/L) and the storm drains (450,000 pCi/L). The leak was repaired and groundwater tritium returned to background levels.

Operable Basis:

Reportable Basis:
At this time there is no identified pathway to drinking water sytems or release exceeding the ODCM Appendix A limit of 20,000 pCi/L.

SOC Reviewed by: DEBORAH L ANDERSON 09/02/2004 09:23:52 CDT
SOC Comments:
Multi-discipline HIT team CH/ RP/ ENG developed 004 plan to identify the tritium source. OPS reviewed 004 plan and requested 5 additional samples. Sample analysis is inprogress. Sampling of the site domestic water identified no tritium detectable. Followup to Eng. to determine trackability of 004 plan results. Additional Followup OPS/RP to address ODCM and possible reportability. SOC 9/1/04
*
EACE to Engineering (Karaba) to determine source of tritium and initiate corrective actions as appropriate. CA to Chem (Kalb) to include the tritium unmonitored release into the Dresden 2004 Annual Effluent Report (due 2nd quarter 2005 to the NRC). CA to Chemistry (Kalb) to Establish and implement tritium monitoring plan. SOC 9/02/04

Assignments

Assign #:	01	**Assigned To:**		**Status:**	AWAIT/C
Aff Fac:	Dresden	**Prim Grp:**	ACAPALL	**Due Date:**	12/02/2004

Assign Type:	TRKG	**Sec Grp:**		**Orig Date:**	
Priority:					
Schedule Ref:					
Unit Condition:					
Subject/Description:	Tracking Assignment for Issue				

Assign #:	02	**Assigned To:**	KALBJR	**Status:**	ACC/ASG
Aff Fac:	Dresden	**Prim Grp:**	A8332CHEM	**Due Date:**	06/01/2005
Assign Type:	CA	**Sec Grp:**		**Orig Date:**	06/01/2005
Priority:					
Schedule Ref:					
Unit Condition:					
Subject/Description:	Incorporate into the annual effluent report the tritium i ssue stated in IR 248494.				

Assign #:	03	**Assigned To:**	KALBJR	**Status:**	ACC/ASG
Aff Fac:	Dresden	**Prim Grp:**	A8332CHEM	**Due Date:**	10/01/2004
Assign Type:	CA	**Sec Grp:**		**Orig Date:**	10/01/2004
Priority:					
Schedule Ref:					
Unit Condition:					
Subject/Description:	CA to Chemistry (Kalb) to Establish and implement tritium monitoring plan.				

Assign #:	04	**Assigned To:**	DREYF	**Status:**	COMPLETE
Aff Fac:	Dresden	**Prim Grp:**		**Due Date:**	09/03/2004
Assign Type:	TRKG	**Sec Grp:**		**Orig Date:**	09/03/2004
Priority:					
Schedule Ref:					
Unit Condition:					
Subject/Description:	DOCUMENTING ADDITION OF WR TO THIS IR.				

Assign #:	05	**Assigned To:**		**Status:**	NTFY/PRI
Aff Fac:	Dresden	**Prim Grp:**	A8330NESTP	**Due Date:**	11/29/2004
Assign Type:	EACE	**Sec Grp:**		**Orig Date:**	11/29/2004
Priority:					
Schedule Ref:					
Unit Condition:					
Subject/Description:	McGivern: Perform EACE to determine source of tritium and initiate corrective actions as appropriate. Document the Equipment type Apparent Cause Evaluation using the template in the In-Progress notes. Ensure a copy of the completed EACE is provided to				

the CAP Clerk prior to closing this assignment.

Assign #:	06	**Assigned To:**		**Status:**	NTFY/PRI
Aff Fac:	Dresden	**Prim Grp:**	A8330NESTP	**Due Date:**	11/01/2004
Assign Type:	ACIT	**Sec Grp:**		**Orig Date:**	11/01/2004
Priority:					
Schedule Ref:					
Unit Condition:					
Subject/Description:	McGivern: Closure of this assignment means the assignee has reviewed the Equipment Apparent Cause Evaluation (EACE) Just-in-Time Briefing as part of preparing the final report of this EACE.				

Assign #:	07	**Assigned To:**		**Status:**	NTFY/PRI
Aff Fac:	Dresden	**Prim Grp:**	A8330NESTP	**Due Date:**	12/07/2004
Assign Type:	MRC	**Sec Grp:**		**Orig Date:**	12/07/2004
Priority:					
Schedule Ref:					
Unit Condition:					
Subject/Description:	McGivern: Bring this EACE to MRC for approval.				

Assign #:	08	**Assigned To:**		**Status:**	NTFY/PRI
Aff Fac:	Dresden	**Prim Grp:**	A8330NESTP	**Due Date:**	12/16/2004
Assign Type:	ACIT	**Sec Grp:**		**Orig Date:**	12/16/2004
Priority:					
Schedule Ref:					
Unit Condition:					
Subject/Description:	McGivern: Create an Internal OPEX and Training Request to Communicate Lessons Learned from the EACE (as applicable).				