

September 21, 1998

Mr. Ambrose L. Schwallie
[]
Westinghouse Savannah River Company
Building 703-A
P.O. Box 616
Aiken, SC 29802

EA 98-09

Subject: Preliminary Notice of Violation and Proposed Imposition of Civil Penalty -
\$75,000 (NTS-SR--WSRC-ESH-1997-0001)

Dear Mr. Schwallie:

This letter refers to the Department of Energy's (DOE) investigation of the facts and circumstances concerning deficiencies in Westinghouse Savannah River Company's (WSRC) bioassay participation requirements and WSRC's corrective actions to remedy those deficiencies.

The Office of Enforcement and Investigation initiated an investigation of this event in April 1998. Based on a review of relevant facility documentation and discussions with WSRC and DOE's Savannah River Operations Office (DOE-SR) personnel during May 12-13, 1998, DOE has concluded that violations of 10 CFR 830, Nuclear Safety Management, occurred. These violations are described in the enclosed Preliminary Notice of Violation (PNOV).

The PNOV describes deficient work processes with respect to full worker adherence to established WSRC bioassay requirements. Specifically, workers and their management routinely failed, over a period of approximately two years, to ensure that job-specific bioassay samples were submitted for analysis as required by WSRC internal procedures. DOE-SR identified bioassay sample submittal deficiencies for the job-specific portion of the bioassay program to WSRC as early as November 1995. Internal WSRC audits and assessments during 1996 and 1997 confirmed that these deficiencies still existed as late as mid-1997 when WSRC conducted a self-assessment of site bioassay participation in response to DOE's technical assistant review at another site for the finding of similar violations. Other quality assurance deficiencies described in the PNOV involve WSRC's corrective action process to resolve widespread bioassay sample submittal delinquencies. In spite of these completed corrective actions that included numerous revisions to bioassay and work control

procedures and worker retraining, worker participation in the job-specific bioassay program continued to decline. These violations occurred because WSRC did not have a process in place to determine whether corrective actions had been effective in remedying identified deficiencies. As a consequence, the job-specific bioassay non-participation level rose to 79 percent in the second quarter of 1997. However, in late 1997 and 1998 WSRC identified that, for 1997, 256 workers failed to submit job-specific bioassays as required. WSRC undertook corrective action to resample these individuals, the results of which indicated that none of these workers had had an identifiable uptake of radioactive material.

DOE is aware that, for all radionuclides other than [a specified material], the WSRC internal dosimetry program does not knowingly permit any worker to be exposed to airborne radioactive material. Further, it is noted that WSRC has implemented a rigorous program for the comprehensive use of field indicators during work activities to signal that an unexpected radiological condition may have led to potential occupational intakes of radioactive material by a worker. Nonetheless, DOE also appreciates that the potential exists to overlook worker exposures to radioactive material due to unrecognized field conditions or other types of personnel error. For example, at [a facility] in 1996, one worker received an unsuspected intake of [radioactive material] that resulted in an organ dose in excess of [a specified amount], a dose that far exceeded DOE's regulatory limit of 50,000 millirem. The dose to this worker was not identified by the WSRC field indicator program but was identified through the bioassay program.

In consideration of all the above factors, DOE has decided to defer any regulatory action with regard to determination of WSRC compliance with 10 CFR 835, *Occupational Radiation Protection*, requirements at this time. However, DOE is concerned with the failure by WSRC to implement established, written requirements of its own internal dosimetry program as committed in its Radiation Protection Program. DOE is particularly concerned with the failure, over a period of several years, by WSRC to implement corrective actions adequate to rectify bioassay program participation deficiencies, as identified by internal WSRC audits and assessments as well as by the DOE-SR. These violations are not isolated instances and reflect multiple failures across several organizations over several years, in addition to inadequate management attention to a continuing trend of failure to adhere to WSRC requirements for the bioassay program as identified in the radiological work control program. Therefore, in accordance with 10 CFR 820, *Procedural Rules for DOE Nuclear Activities*, Appendix A, the violations associated with job-specific routine bioassay compliance and the corrective action process have been classified as Severity Level II violations.

To emphasize the need for assuring the proper control of work-related activities and to ensure that effective actions are taken to preclude a recurrence with potentially more serious consequences, I am issuing the enclosed PNOV and Proposed Imposition of Civil Penalty in the amount of \$75,000. In accordance with the Enforcement Policy in effect at the time of this event, the base civil penalty for each of the two Severity Level II violations at a site such as Savannah River is \$37,500. The mitigation factors set forth in the Enforcement Policy were reviewed and no adjustment was considered appropriate. Specifically, the violations were identified initially as a result of a November 1995 DOE-SR audit.

You are required to respond to this letter and you should follow the instructions specified in the enclosed PNOV when preparing your response. Your response should document any additional specific actions taken to date and planned to prevent recurrence. After reviewing your response to this Notice, DOE will determine whether further action is necessary to ensure compliance with applicable nuclear safety requirements.

Sincerely,

A black rectangular box containing a white handwritten signature, likely of Peter N. Brush.

Peter N. Brush
Acting Assistant Secretary
Environment, Safety and Health

**PRELIMINARY NOTICE OF VIOLATION
and
PROPOSED IMPOSITION OF CIVIL PENALTY
NTS-SR--WSRC-ESH-1997-0001**

Westinghouse Savannah River Company
Savannah River Site

EA 98-09

As a result of a Department of Energy (DOE) evaluation of activities associated with bioassay participation deficiencies that have occurred since November 1995, violations of DOE nuclear safety requirements were identified. In accordance with 10 CFR 820, Appendix A, *General Statement of Enforcement Policy*, DOE proposes to impose civil penalties pursuant to Section 234A of the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2282a, and 10 CFR 820. The particular violations and associated civil penalties are set forth below.

I. INADEQUATE BIOASSAY PROGRAM PARTICIPATION

10 CFR 830.120(c)(2)(i) requires that work be performed to established administrative controls using approved procedures.

Contrary to the above, work was not performed in accordance with established administrative controls using approved procedures in that:

A. Procedure 5Q1.1-504, *Radiological Work Permit (RWP)*, Revision 3, January 1, 1997 stated:

1. In Section 3.0, *ARWP Sign-In Sheet* that *Athe worker-s signature provides documentation attesting that the individual has read, understands and will comply with the RWP.*
2. In Section 4.0, *AFacility/Shift Manager* that their *Aresponsibilities include holding workers and their supervision accountable for compliance with RWP requirements.*
3. In Section 4.0, *ALine Manager* that they are *Aresponsible for holding workers and their supervision accountable for radiological work performance in accordance with the RWP.*

4. In Section 4.0, ALead Work Group Supervisor@that they are responsible for Aholding workers accountable for radiological work performance in the RWP.@
5. In Section 5.2.2.3 to Adocument the name and social security number of any worker not having the specified bioassay code on his/her Radiological Qualifications Badge (RQB),@and thus was required to submit a job-specific bioassay sample. Section 5.2.2.3 also states that AThe Health Physics Technology (HPT) Bioassay customer representative shall be notified in order to ensure that job-specific bioassay samples are requested from these workers upon completion of work.@
6. In Section 5.2.4.2 that Ait is the responsibility of RCO supervision to identify the minimum bioassay sampling requirements for job-specific RWPs....@

However, from January 1, 1996, to September 30, 1997, procedural requirements were not adhered to in that: (1) workers signed-in on RWPs without adhering to RWP requirements for bioassay, i.e., workers failed to submit bioassay samples as required; (2) site management did not hold workers and the work group supervisors accountable for worker submission of RWP required bioassay samples; (3) the names and social security numbers of workers required to submit RWP, job-specific bioassay samples were not documented and the Bioassay Customer representative was not notified for purposes of sample tracking; and (4) bioassay requirements were not always identified on RWPs as required.

B. Procedure 5Q1.1-506, *In Vivo and In Vitro Bioassay Scheduling and Administration*, stated:

1. In Revision 4, dated July 14, 1995, Section 4.0 that line management is responsible for ensuring that personnel are on the appropriate [bioassay] sampling program and that bioassay samples are submitted by personnel. Additionally, line management is responsible for notifying Health Physics Technology (HPT) of changes in job assignment that impact an employee's bioassay program.
2. In Revision 4, dated July 14, 1995, Section 5.1.2.1 that non-routine, job-specific sampling is at the discretion of the Radiological Control Operations (RCO) group and is noted on the RWP.

3. In Revision 4, dated July 14, 1995, Section 5.1.4 that "personnel who are changing their job assignment, and consequently, changing bioassay sampling schedules, are required to provide a closeout sample.@"
4. In Revision 4, dated July 14, 1995, Sections 5.2.1.2 and 5.2.1.3 that "when Category II (or Category III) employees are required to enter Airborne Radioactivity Areas or Contamination Areas...facility RCO management shall be consulted to determine the need for non-routine, job-specific bioassay.@"
5. In Revision 4, dated July 14, 1995, Section 5.4 that "when an employee changes job assignments, it is the responsibility of the employee's new line management to ensure that the employee is placed on the proper bioassay schedule and provides the required closeout samples.@"
6. In Revision 4, dated July 14, 1995, Section 5.4 that "routinely, HPT will issue the Bioassay Schedule Report to allow line management the opportunity to verify the accuracy of the HPT information concerning the employees on the bioassay program."
7. In Revision 5, April 1, 1996, Section 5.1.2.1 that RCO initiates job-specific samples by providing a yellow label to employees, marking the label to indicate the type of sample, telling the employee to submit the sample, and sending a message to "BIOASSAY@" to ensure that the sample is tracked to ensure receipt.
8. In Revision 5, April 1, 1996, Section 5.2.2 that "routine bioassay assignments are reviewed at the time personnel receive an annual whole body count.@"
9. In Revision 6, October 23, 1996, Section 5.2.1 that "specific bioassay requirements are given in the RWP's and Standing RWP's."

However, between January 1, 1996, and September 20, 1997, WSRC Facility Evaluation Board reports identified that (1) workers were on incorrect bioassay programs, as identified by their RQB and consequently did not submit job-specific bioassay samples as required; (2) line management did not always ensure that new employees were placed on the correct bioassay schedule, the Bioassay Schedule Report was not always provided to line management for accuracy review, and job-specific bioassay sampling requirements were not always identified on RWP's; and (3) bioassay assignments were not always reviewed when personnel received an annual whole body count.

This violation constitutes a Severity Level II problem.

Civil Penalty - \$37,500

II. QUALITY IMPROVEMENT

10 CFR 830.120(c)(1)(iii), *Quality Improvement*, requires that (1) processes to detect and prevent quality problems be established and implemented; (2) that items, services and processes that do not meet established requirements be identified, controlled and corrected according to the importance of the problem and the work affected; and (3) that correction shall include identifying the causes of problems and working to prevent recurrence.

Contrary to the above, processes to detect and prevent quality problems were not adequately established and implemented and corrective actions did not prevent recurrence in that in November 1995, DOE identified to WSRC that radiation work permit-prescribed bioassay sampling requirements were not effectively implemented in that 23 percent of workers did not submit bioassay samples as required. Corrective actions were implemented by WSRC. However, the corrective actions were not effective to prevent recurrence in that non-participation by radiation workers in the job-specific portion of the bioassay program continued through 1996 and increased to a level of non-participation of 79 percent by the second quarter of 1997.

This violation constitutes a Severity Level II problem.

Civil Penalty - \$37,500

Pursuant to the provisions of 10 CFR Part 820, Westinghouse Savannah River Company is hereby required within 30 days of the date of this Notice to submit a written statement or explanation to the Director, Office of Enforcement and Investigation, Attention: Office of the Docketing Clerk, EH-10, 270CC, P.O. Box 2225, Germantown, MD 20874-2225, with copies to the Manager, DOE, Savannah River Operations Office, and to the Cognizant DOE Secretarial Office for the facility that is the subject of this Notice. This reply should be clearly marked as a "Reply to a Preliminary Notice of Violation" and should include the following for each violation: (1) admission or denial of the alleged violation; (2) any additional steps that will be taken, supplementing those already committed to by WSRC, to address each violation for this incident in order to achieve compliance; and (3) the date when full compliance will be achieved and any necessary corrective actions completed.



Peter N. Brush
Acting Assistant Secretary
Environment, Safety and Health

Dated at Washington, DC,
this 21st day of September 1998