UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931

September 24, 2004

NMED Nos. 030585 and 040606

Westinghouse Electric Company
ATTN: Mr. M. Fecteau, Manager
Columbia Plant
Commercial Nuclear Fuel Division
Drawer R
Columbia, SC 29250

SUBJECT: NRC INSPECTION REPORT NO. 70-1151/2004-004 AND NOTICE OF VIOLATION

Dear Mr. Fecteau:

This refers to the inspection conducted on August 23 - 26, 2004, at the Columbia Nuclear Fuel Plant. The purpose of this inspection was to determine whether activities authorized by the licensee were conducted safely and in accordance with NRC requirements. At the conclusion of the inspection, the findings were discussed with those members of your staff identified in the enclosed report.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observation of activities in progress.

Based on the results of this inspection, the NRC has determined that a Severity Level IV violation of regulatory requirements occurred. This violation was evaluated in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, which is included on the NRC's web site at http://www.nrc.gov./what-we-do/regulatory/enforcement.html. The violation is cited in the enclosed Notice of Violation (Notice), and the circumstances surrounding the violation are described in detail in the subject inspection report.

In regard to this cited violation, you are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In addition, the NRC has determined that another Severity Level IV violation of NRC requirements occurred. This violation is being treated as a non-cited violation (NCV), consistent with Section VI.A of the Enforcement Policy. The NCV is described in the subject inspection report. If you contest the violation or significance of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to

the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with copies to the Regional Administrator, Region II, and the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

In accordance with 10 CFR 2.390 of NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be available electronically for public inspection in NRC's Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redactions.

Should you have any questions concerning this letter, please contact us.

Sincerely,

/RA/

Jay L. Henson, Chief
Fuel Facility Inspection Branch 2
Division of Fuel Facility Inspection

Docket No. 70-1151
License No. SNM-1107

Enclosures: 1. Notice of Violation
2. NRC Inspection Report 70-1151/2004-004

cc w/encls:
Sam McDonald, Manager
Environment, Health and Safety
Commercial Nuclear Fuel Division
Westinghouse Electric Corporation
P. O. Box R
Columbia, SC 29250

Henry J. Porter, Director
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Control
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J. Henson, RII
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P. Silva, NMSS
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PUBLIC

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DATE				
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PUBLIC DOCUMENT	YES NO			

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NOTICE OF VIOLATION

Westinghouse Electric Company, LLC
Columbia, SC

Docket No. 70-1151
License No. SNM-1107

During an NRC inspection conducted on August 23 - 26, 2004, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," NUREG-1600, the violation is listed below:

A. Safety Condition No. S-1 of Special Nuclear Material License No. 1107, requires that material be used in accordance with statements, representations, and conditions in the License Application dated April 30, 1995, and supplements thereto.

Section 3.4.1 of the License Application requires that operations to assure safe, compliant activities involving nuclear material will be conducted in accordance with approved procedures.

Section II.3 of Chemical Operating Procedure (COP) 830110, "Solvent and Product Concentrator System 1 - Startup and Operation," Revision 21, dated March 11, 2004, requires that the Team Manager or Designee make sure the following:

- uranyl nitrate (UN) concentration is 5.0 grams uranium-235 per liter or less;
- pH is 2.0 or less; and,
- the uranyl nitrate (UN) contains 4 percent free nitric acid or more, prior to an operator commencing pump out of the UN product to the bulk storage tanks.

Contrary to the above, on August 24, 2004, operations involving nuclear material were not conducted in accordance with approved procedures. Specifically, a Team Manager opened an incorrect valve, pumping UN product to the bulk storage tanks, prior to receipt of the lab results for UN concentration, pH, and free nitric acid concentration, as required by COP 830110.

This is a Severity Level IV violation (Supplement VI).

Pursuant to the provisions of 10 CFR 2.201, Westinghouse Electric Company, is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555 with a copy to the Regional Administrator, Region II, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license not be modified, suspended, or

revoked, or why such other action as may be proper should be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001.

Because your response may be placed in NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, classified, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy, proprietary, classified, or safeguards information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld, and provide in detail the basis for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information).

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 24th day of September, 2004

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.:	70-1151
License No.:	SNM-1107
Report No.:	70-1151/2004-004
Licensee:	Westinghouse Electric Corporation
Facility:	Commercial Nuclear Fuel Plant
Location:	Columbia, South Carolina
Dates:	August 23 - 26, 2004
Inspector:	N. Rivera Feliciano, Fuel Facility Inspector
Accompanying Personnel:	J. Griffin, Acting Senior Material Analyst, Division of Fuel Facility Inspection
Approved By:	Jay L. Henson, Chief Fuel Facility Inspection Branch 2 Division of Fuel Facility Inspection

Enclosure 2

EXECUTIVE SUMMARY

Commercial Nuclear Fuel Division
NRC Inspection Report 70-1151/2004-004

This routine announced inspection included aspects of the licensee's programs for environmental protection, radioactive waste management, low level radioactive waste storage, and waste generator requirements. In addition, the inspector reviewed the facts and circumstances related to an event reported by the licensee on August 25, 2004, involving the transfer of a batch of uranyl nitrate solution to a non-favorable geometric tank. The inspection identified the following aspects of the licensee's programs as outlined below:

Environmental Protection

- The licensee's environmental program was implemented in accordance with Chapter 10 of the license application. However, two procedures lacked guidance for the collection of samples. The licensee intended to review the procedures and revise them as necessary (Paragraph 2.a).

- A non-cited violation was identified when the licensee failed to follow procedures and perform required isotopic uranium analysis when action levels were exceeded. The licensee took appropriate action to address the issue (Paragraph 2.b).

- The licensee adequately implemented the environmental monitoring requirements as set forth in the license application (Paragraph 2.c).

Radioactive Waste Management

- Calculated offsite dose from radioactivity in liquid effluents was significantly below regulatory requirements (Paragraph 3.a).

- The calculated offsite dose from radioactivity in airborne radiological emissions was significantly below regulatory requirements (Paragraph 3.b).

- No significant problems were identified with the effluent monitoring equipment, and no deviations from the procedures were observed (Paragraph 3.c).

Low-Level Radioactive Waste Storage

- The licensee's program for the storage, labeling, shipping, and tracking of low level radioactive waste (LLRW) was adequate (Paragraph 4).

Waste Generator Requirements

- The licensee's program for the management and shipment of LLRW for disposal met the requirements of the regulations (Paragraph 5).

Plant Operations

- A violation was identified for the failure to follow a procedure that resulted in the transfer of an unanalyzed uranyl nitrate solution to a non-favorable geometry tank (Paragraph 6).

REPORT DETAILS

1. Summary of Plant Status

This report covered the period of August 23 - 26, 2004. A reportable event occurred on August 24, 2004, involving the transfer of a batch of uranyl nitrate solution to a non-favorable geometry tank. On August 26, Janice Griffin, Acting Senior Material Analyst of the Division of Fuel Facility Inspection, Region II, met with senior site management and toured the facility.

2. Environmental Protection (Inspection Procedure (IP) 88045) R2

a. Program/Procedure Changes
Internal Audits and Inspections
Quality Control of Analytical Measurements

(1) Scope and Observations

The licensee's environmental program was reviewed to verify that environmental monitoring was implemented in accordance with Chapter 10 of the license application. The inspector reviewed changes to the procedure for the collection of routine weekly and monthly environmental samples. The changes consisted of a new chain of a custody form, check-off list, and a shipping log for tracking samples. No problems were noted.

The inspector reviewed the licensee's internal audit for the environmental program, dated August 13, 2004. No issues were identified. The inspector also reviewed procedures for collecting soil, vegetation, sediment, environmental air samples, fish, surface water, and ground water samples. Based on the documents reviewed, the inspector did not identify any significant issues, but noted a weakness in the licensee's procedures for collecting vegetation and soil samples. The inspector found that the procedures did not give specific guidance for performing the collection of these samples. The individuals interviewed by the inspector indicated they became qualified and knowledgeable about sample collecting by job training and past work experience.

The inspector also noted that the procedures for the handling of ground water well and surface water samples provided different control steps for verification prior to sending the samples to the vendor. For example, for Procedure ROP-06-006, "Collection of Routine Weekly and Monthly Environmental Samples," the instruction was that the Integrated Safety Engineer approve the packaging list prior to shipment. For Procedure ROP-06-007, "Two Inch Well Sampling," the instruction was to send the shipment to the vendor, and there was no instruction for the Integrated Safety Engineer to approve the packaging list prior to shipment. The licensee intended to review their environmental procedures and revise them as necessary.

(2) Conclusions

The licensee's environmental program was implemented in accordance with Chapter 10 of the license application. However, two procedures lacked guidance for the collection

of samples. The licensee intended to review the procedures and revise them as necessary.

b. Quality Control Records

(1) Scope and Observations

On May 18, 2004, the licensee identified that isotopic uranium analyses were not performed on ground water samples for five quarters (2003 and the first quarter for 2004). During this inspection, the licensee communicated to the inspector that required analyses for gross alpha and gross beta were performed, but, for samples that were above the action levels for these analyses, the required isotopic uranium analyses were not performed. The licensee indicated that an incorrect packaging list caused this problem. The licensee's immediate corrective actions were to have the vendor perform the isotopic uranium analysis for samples that exceeded the action levels (for the samples the vendor had available), and to re-instruct their technicians regarding procedural compliance and the use of the correct packaging list.

The inspector reviewed the sample analyses that were available for isotopic uranium, and noted that the uranium concentration was below the licensee's action level of 30 pCi/L for total uranium. This indicated that there was no evidence of an unexpected release of licensee material into the ground water. Therefore, this non-repetitive, licensee self-identified violation is being treated as a non-cited violation (NCV), consistent with Section VI.A.8 of the NRC Enforcement Policy (NCV 70-1151/2004-04-01, Failure to Follow Procedures and Failure to Perform the Required Isotopic Uranium Analysis).

(2) Conclusions

An NCV was identified when the licensee failed to follow procedures and perform required isotopic uranium analyses when action levels were exceeded. The licensee took appropriate action to address the issue.

c. Monitoring Stations
Monitoring Program Reports

(1) Scope and Observations

The inspector verified that the licensee was in compliance with Chapter 10 of the license application. Monitoring results for surface water, soil, vegetation, sediment, fish, ground water wells, and environmental air samples were reviewed to assess the radiological impact to the environment due to plant operations. The licensee's 2003 and first quarter of 2004 results for these environmental samples were collected at the required frequency and, except as noted above, the gross alpha and the gross beta activity levels were consistently below the regulatory requirements. Also, the inspector observed the condition of selected environmental monitoring equipment located around the perimeter of the facility. The sampling equipment was functional. No significant problems were noted.

(2) Conclusions

The licensee adequately implemented the environmental monitoring requirements as set forth in the license application.

3. Radioactive Waste Management (IP 88035) R3

a. Radioactive Liquid Effluents
Records and Reports

(1) Scope and Observations

The licensee's liquid effluent program was reviewed for compliance with the requirements of 10 CFR Part 20 and Chapter 10 of the license application. The inspector reviewed the licensee's semi-annual effluent reports for 2003 and the first semi-annual report for 2004 which were required by 10 CFR 70.59. The activity is summarized in the table below in comparison with the results reported for 2000 through 2002.

Radioactivity in Liquid Effluents Released From 2000 to 2003, in millicuries (mCi)

Isotope	2000 (mCi)	2001 (mCi)	2002 (mCi)	2003 (mCi)
U^{234}	105.2	53.7	54.6	46.3
U^{235}	3.9	1.9	1.9	1.6
U^{238}	14.9	7.6	7.7	6.5
Total Uranium	124.0	63.2	64.2	54.4

Monitoring results for 2003 indicated that plant radiological effluents for this period had slightly decreased from the previous monitoring period in all areas. The calculated offsite dose attributable to liquid effluents was less than $0.3x10^{-3}$ millirem per year (mrem/yr) which was well within the annual dose limit specified in 10 CFR Part 20. The inspector also reviewed the data analysis results of the liquid effluent release records for 2003 and the first half of 2004. Based on the documents reviewed, no problems were noted.

(2) Conclusions

Calculated offsite dose from radioactivity in liquid effluents was significantly below 10 CFR Part 20 criteria.

b. Radioactive Airborne Effluents
Records and Reports

(1) Scope and Observations

The licensee's airborne effluent program was reviewed for compliance with the requirements of 10 CFR Part 20 and Chapter 10 of the license application. The inspector reviewed the licensee's semi-annual effluent reports for 2003 and the first semi-annual report for 2004 which were required by 10 CFR 70.59.

The inspector reviewed the total quantities of radioactive materials in airborne effluents released in 2003. The inspector observed that the licensee had experienced a decrease in airborne effluent activity from 556 microcuries (µCi) in 2002 to 510 µCi in 2003. The total effective dose equivalent (TEDE) to an individual at the site boundary due to airborne effluents was approximated to be less than 0.4 mrem/yr, well within the annual dose limit specified in 10 CFR Part 20. Based on the documents reviewed, the inspector did not note any issues.

(2) Conclusions

The calculated offsite dose from radioactivity in airborne radiological emissions was significantly below 10 CFR Part 20 criteria.

c. Effluent Monitoring Instruments
Procedures

(1) Scope and Observations

The inspector verified that the stacks were monitored continuously and that the equipment was in a good operating condition. The inspector observed the collection of several stack air samples and noted that procedures were followed. No significant radiological issues were observed.

(2) Conclusions

No significant problems were identified with the effluent monitoring equipment, and no deviations from the procedures were observed.

4. Low-Level Radioactive Waste and Radioactive Waste Management (IPs 84900 and 88035) R5, R3.06

Management Control and Surveys, Adequacy of Storage Area
Package Integrity and Labeling, Radioactive Solid Waste

a. Scope and Observations

The licensee's program for the storage, labeling, shipping, and tracking of low level radioactive waste (LLRW) was reviewed. The licensee stored contaminated solid waste

generated from the fuel areas in drums and in sea-land containers which were sent for burial. The inspector toured LLRW staging areas and observed that waste containers were labeled properly, and no significant container degradation was observed. The inspector reviewed the LLRW records and verified several containers for location and for information which included the quantity of the radionuclide. Also, the inspector observed operators packaging LLRW material into a sea-land container for burial and the final survey prior to shipment for burial. No issues were identified.

b. Conclusions

The licensee's program for the storage, labeling, shipping, and tracking of LLRW was adequate.

5. Waste Generator Requirements (IP 84850) R6

Management Controls, Quality Assurance, Waste Manifests
Waste Classification, Waste Form and Characterization,
Waste Shipment Labeling, Tracking of Waste Shipments

a. Scope and Observations

Classification, packaging, shipping, and tracking of LLRW were reviewed to verify that activities were conducted in accordance with the requirements of Appendix G of 10 CFR Part 20, and 10 CFR 61.55 and 61.56.

The inspector's review of LLRW shipments made in 2003 involved the examination of shipping manifests, tracking of radioactive shipments, labeling, and quality control records. The inspector verified that the waste was classified and characterized in accordance with 10 CFR Part 61 requirements, and the licensee provided an acceptable level of information in the shipping papers to determine the quantities of each individual radionuclide shipped. Proper notification was made to the licensed waste facility prior to shipments of the radioactive material. The inspector verified that the licensee received an acknowledgment of receipt for the waste. No problems were identified.

b. Conclusions

The licensee's program for the management and shipment of LLRW for disposal met the requirements of the regulations.

6. Plant Operations (IP 88020) O2

Event Follow up

a. Scope and Observations

The licensee notified the NRC because of the loss of the double contingency protection (NRC Event Number (No.) 04985, Nuclear Materials Event Database (NMED) No. 40606), Pump out of a Batch of Uranyl Nitrate into a Non-Favorable Geometry (NFG) Tank).

On August 24, 2004, the licensee transferred a batch of uranyl nitrate (UN) solution from a favorable geometry vessel to the NFG UN bulk storage vessel prior to receiving sample results for uranium-235 (U^{235}) concentration, percent free acid, and pH, as required by procedure. Section II.3 of chemical operating procedure (COP) 830110, "Solvent and Product Concentrator System 1 - Startup and Operation," Revision 21, dated March 11, 2004, required that the Team Manager/Designee confirm the samples results were (1) UN concentration of 5.0 grams U^{235} per liter or less, (2) pH of 2.0 or less, and (3) the UN contained 4 percent free nitric acid or more.

The event occurred when a Team Manager opened a wrong valve causing the transfer of the unanalyzed solution. The licensee's immediate corrective actions included stopping the transfer and collecting a sample for analysis. The sample results were within specifications. This event was similar to an event that occurred on July 17, 2003 (NRC Event No. 40004, NMED No. 030585, Pump out of a Batch of Uranyl Nitrate). The licensee's immediate corrective actions that were implemented for the previous event did not prevent the latest event from occurring. This self-identified, repetitive violation is being treated as a violation (VIO) for failure to follow procedure (VIO 70-1151/2004-04-02, Failure to Follow Procedure).

b. Conclusions

A violation was identified for the failure to follow procedure that resulted in the transfer of an unanalyzed UN solution to an NFG tank.

7. Exit Meeting Summary

The inspection scope and results were summarized on August 26, 2004, with the licensee. The inspector described the areas inspected and discussed in detail the inspection results. Although proprietary documents and processes were reviewed during this inspection, the proprietary nature of these documents or processes is not included in this report. No dissenting comments were received from the licensee.

ATTACHMENT

1. LIST OF PERSONS CONTACTED

Licensee

*C. Aguilar, URRS, Manager
*S. Carver, EH&S
*M. Fecteau, Plant Manager
R. Fischer, Senior Engineer, Regulatory Engineering and Operations
*R. Gale, Chemical Operations Manager
*D. Graham, EH&S Technician
*S. McDonald, EH&S Manager
*T. Shannon, Operations Manager, EH&S
*C. Snyder, NCS Engineer

Other licensee employees contacted included engineers, technicians, production staff, security, and office personnel.

*Denotes those present at the exit meeting on August 26, 2004.

2. INSPECTION PROCEDURES USED

IP 88020	Regional Nuclear Criticality Safety Inspection Program
IP 88035	Radioactive Waste Management
IP 88045	Environmental Protection
IP 84850	Radioactive Waste Management - Inspection of Waste Generator Requirement of 10 CFR Part 20 and 10 CFR Part 61
IP 84900	Low-Level Radioactive Waste Storage

3. LIST OF ITEMS OPENED AND CLOSED

Item Number	Status	Type	Description
70-1151/2004-04-01	Open/Closed	NCV	Failure to Follow Procedures and Failure to Perform the Required Isotopic Uranium Analysis (Paragraph 2.b).
70-1151/2004-04-01	Open	VIO	Failure to Follow Procedure (Paragraph 6).

4. LIST OF ACRONYMS USED

ADAMS	Agency-wide Document Access Management System
CFR	Code of Federal Regulation
COP	Chemical Operating Procedure
EH&S	Environmental Health and Safety
IP	Inspection Procedure
LLRW	Low-Level Radioactive Waste
µCi	microcurie
mCi	millicurie
mrem/yr	millirem per year
NCV	Non-Cited Violation
NCS	Nuclear Criticality Safety
NFG	Non-Favorable Geometry
NMED	Nuclear Materials Event Database
No.	Number
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records System
pCi/L	picocurie per liter
PDR	Public Document Room
SNM	Special Nuclear Material
TEDE	Total Effective Dose Equivalent
U^{235}	Uranium-235
UN	Uranyl Nitrate
URRS	Uranium Recycling and Recovery Services
VIO	Violation