



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

**REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931**

March 30, 2001

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

SUBJECT: NRC INSPECTION REPORT NO. 70-1151/2001-02 AND NOTICE OF VIOLATION

Dear Mr. Monley:

This refers to the inspection conducted on February 12 -16, 2001, and February 26 through March 2, 2001, at the Columbia Nuclear Fuel Plant. The purpose of the inspection was to determine whether activities authorized by the license 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. 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 violations of NRC requirements occurred. The violation is cited in the enclosed Notice of Violation (Notice) and involves two examples of failing to follow the criticality safety posting for the uranium recovery area dissolver elevator. The violation is of concern not only because the margin of safety was reduced, but also because notification by NRC that the first example had been observed did not result in sufficiently timely action to prevent the second occurrence two days later.

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, your response should also address the actions that you will take to assure more timely future corrective actions to preclude violations with multiple examples.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC 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/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

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

Sincerely,

/RA/

Edward J. McAlpine, Chief
Fuel Facilities Branch
Division of Nuclear Materials Safety

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

Enclosures: 1. Notice of Violation
2. NRC Inspection Report

cc w/encls:
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DATE	03/30/2001	03/30/2001	
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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 February 26 through March 2, 2001, 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:

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 6.1.1 of the License Application states, in part, that procedures impacting nuclear criticality safety are made available through posting of limits.

Nuclear criticality safety posting URRS-27, Rev. 1, "Criticality Requirements for the C-4 Dissolver Elevator" required that containers (or stacks of containers) on the elevator be spaced a minimum of 12 inches apart.

Contrary to the above, on February 27 and March 1, 2001, licensee personnel failed to maintain container spacing in the uranium recovery dissolver area elevator at a minimum of 12 inches.

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

Pursuant to the provisions of 10 CFR 2.201, Westinghouse Electric Corporation is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 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 for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (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 previous 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 Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Enclosure 1

Your response will be made publicly available. Therefore, to the extent possible, the response should not include any personal privacy, proprietary, or safeguards information so that it can be available electronically for public inspection in the NRC 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/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

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

Dated at Atlanta, Georgia
this 30th day of March 2001

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 70-1151

License No.: SNM-1107

Report No.: 70-1151/2001-02

Licensee: Westinghouse Electric Company

Facility: Commercial Fuel Fabrication Facility
Columbia, SC 29250

Inspection Conducted: February 12 - 16, 2001 and February 26 - March 2, 2001

Inspectors: D. Ayres, Senior Fuel Facility Inspector, RII
M. Crespo, Fuel Facility Inspector, RII
G. Suber, Project Manager Intern, HQ
R. Swatzell, Fuel Facility Inspector, RII

Approved by: E. McAlpine, Chief, Fuel Facilities Branch
Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

The focus of this routine, unannounced inspection was the observation and evaluation of the licensee's programs for operational safety, maintenance, training, waste management, and environmental protection. The inspection also included evaluations of the licensee's responses to previously identified issues and incidents. The report includes inspection efforts of two regional inspectors and two inspector trainees. The inspectors were accompanied by the Deputy Director, Division of Nuclear Material Safety, NRC Region II on portions of two days during the inspection. The inspection identified the following aspects of the licensee programs as outlined below:

Plant Operations

- Container spacing in the uranium recovery dissolver area elevator was not adequate to meet criticality safety requirements and was identified as Violation 01-02-01. (Section 2.a)

Environmental Protection

- Implementation of the environmental monitoring program was in accordance with the requirements of License SNM-1107. No significant radiological contamination was observed in environmental media. (Section 3.a)
- Technetium activity levels in groundwater monitoring wells were stabilized. No further significant down-gradient migration of the technetium contaminated groundwater plume was evident. (Section 3.a)

Waste Management

- The licensee met the performance and release criteria requirements for liquid effluents in 10 CFR Part 20 and SNM-1107. Calculated offsite dose as a result of radioactivity in liquid effluents was significantly below 10 CFR Part 20 criteria. (Section 4.a)
- Total radiological activity in liquid effluents had increased approximately 243 percent during 2000 as compared to 1999 levels. (Section 4.a)
- The licensee had implemented the airborne effluent monitoring program in accordance with license SNM-1107. Calculated offsite doses due to airborne radiological emissions were within As Low As Reasonably Achievable constraint criteria in 10 CFR Part 20. (Section 4.b)
- The low level radioactive waste shipment and tracking program was being conducted in accordance with the requirements of 10 CFR Part 20, Appendix G, and 10 CFR Part 61. (Section 4.c)
- A container of contaminated incinerator ash was improperly stored and posed a potential for airborne contamination. (Section 4.c)
- Contaminated material was being stored in corroded drums on an outside storage pad susceptible to possible water intrusion. (Section 4.c)

Maintenance/Surveillance

- The conduct of maintenance on process safety controls was being adequately performed to ensure their availability and reliability. (Section 5.a)
- The procedures for Preventive Maintenance and Operator Maintenance for the bulk powder blending and uranium recovery areas were properly approved by licensee management and included adequate instructions. (Section 5.b)
- Surveillance testing of the bulk powder containers was adequate to ensure the availability and reliability of the engineered safety controls. Calibrations for electronic controls were being performed in accordance with established frequencies. (Section 5.c)

Training

- The conduct of maintenance on process safety controls was being adequately performed to ensure their availability and reliability. (Section 6.a)

REPORT DETAILS

1. Summary of Plant Status

This report covered two five-day periods. Powder, pellet, and fuel assembly production proceeded at normal rates. Construction of the new erbium facility was underway. There were no unusual plant operational occurrences during the onsite inspection.

2. Plant Operations (O3) (IP 88020)

Conduct of Operations (O3.01)

a. Inspection Scope

Operations in the fuel production and supporting areas were reviewed to verify adherence to safety requirements and conduct of safe practices.

b. Observations and Findings

The inspectors observed operations in the fuel processing areas and the uranium recovery areas. The inspectors also observed the outdoor activities supporting the fuel manufacturing process. The inspectors observed that specific operations were typically being performed safely and in accordance with approved plant procedures and postings. However, on February 27, the inspectors observed the improper spacing of containers in the uranium recovery dissolver area elevator. The elevator's criticality safety posting required that containers (or stacks of containers) be spaced at least 12 inches apart. The inspectors found that the spacing was easily achievable by placing containers in each corner of the elevator. The inspectors observed that one container placed in the center of the elevator was within six to eight inches of containers stored in the corners of the elevator. Although the container in the center of the elevator was found to be empty, the criticality control for that area relied on container spacing, so that mass controls were not necessary. The inspectors discussed this situation with licensee management for corrective action. On March 1, 2001, the inspectors observed similar improper container spacing in the uranium recovery dissolver area elevator. This time, two containers had been placed in the center of the elevator, but the spacing between containers was only about two inches and the containers in the center of the elevator were not empty. These two examples of the failure to follow posted safety requirements were identified as Violation (VIO) 01-02-01.

c. Conclusions

Container spacing in the uranium recovery dissolver area elevator was not adequate to meet criticality safety requirements and was identified as VIO 01-02-01.

3. **Environmental Protection (IP 88045) (R2)**

Monitoring Program Implementation (R2.01) and Monitoring Program Results (R2.02)

a. Inspection Scope

The licensee's environmental program was reviewed to verify that environmental monitoring was implemented in accordance with the requirements of License SNM-1107 and to determine the extent of environmental radiological contamination as a result of plant operations.

b. Observations and Findings

The inspector observed that semiannual soil and vegetation sample analyses indicated that the total isotopic uranium activity levels were consistently lower than the licensee's action levels of 10 picocuries/gram (pCi/g) (for soil) and 15 pCi/g (for vegetation) for all four sampling locations. In addition, gross alpha and uranium isotopic results for annual sediment and fish samples were below the licensee action level of 10 pCi/g. The inspector also noted that 2000 gross alpha and gross beta activities for quarterly surface water and Congaree River samples were below the licensee's action levels of 300 picocuries per liter (pCi/l) (alpha) and 600 pCi/l (beta), and environmental air station sampling data consistently showed that weekly activity concentrations were less than the licensee's action level of 5.00E-15 microcurie per milliliter (uCi/ml).

The inspector reviewed the licensee's 2000 quarterly (first three quarters) groundwater sampling results and observed that the average gross beta activity levels for monitoring wells 7, 10, 15, and 32 exceeded the licensee's action level of 50 pCi/l with results of 403, 75, 155, and 1424 pCi/l respectively. Previous inspections (see reports 70-1151/98-01, 99-01, and 2000-01) identified that elevated activity in these wells was due to a technetium source term originating from the vicinity of the cylinder recertification building (CRB). The results from 2000 showed that the activity had stabilized, indicating that the licensee's corrective actions (i.e. sealing of cracks in CRB floor trenches, etc.) had effectively neutralized the technetium source term. In addition, the inspector noted that the average 2000 gross beta activity levels for down-gradient groundwater monitoring wells 26 and 3A were approximately <2 pCi/l and 28 pCi/l respectively, which was consistent with 1999 data, indicating minimal down-gradient migration of the technetium-99 contaminated groundwater plume. The inspector also noted that average gross alpha and gross beta activity levels in groundwater monitoring well 30 (in the vicinity of the water treatment facilities (WTFs)) had exceeded the licensee action levels of 15 pCi/l (72 pCi/l gross alpha) and 50 pCi/l (110 pCi/l gross beta) during the first three quarters of 2000. Well 30 had historical contamination problems as observed in previous inspections (see reports 70-1151/98-01, 99-01, and 2000-01) due to leakages from the water treatment processing area. The inspector also observed the acquisition of surface water and environmental air samples and noted that representative samples were being obtained.

c. Conclusions

The licensee's environmental monitoring program was implemented in accordance with the requirements of License SNM-1107. No significant radiological contamination was observed in environmental media. Technetium activity levels in groundwater monitoring wells (7, 10, 15, and 32) for 2000 were stabilized and remained consistent with the levels observed in 1999. No further significant down-gradient migration of the technetium contaminated groundwater plume was evident.

4. **Waste Management (IPs 84850 and 88035) (R3)**

a. Liquid Effluent Monitoring Results (R3.02)

(1) Inspection Scope

The inspector reviewed the licensee's liquid effluents monitoring program to verify that the program was implemented in accordance with License SNM-1107 requirements and to insure that liquid radiological releases met the requirements of 10 CFR Part 20 criteria.

(2) Observations and Findings

Table 1: Liquid Effluent Isotopic and Total Activity Released During 1999 and 2000 (millicuries)

ISOTOPE	1999 (mCi)	2000 (mCi)
U-234	43.4	105.2
U-235	1.5	3.9
U-238	6.1	14.9
TOTALS	51.0	124.0

As shown by the data in Table 1, the total activity released during 2000 (124.0 mCi) had substantially increased (approximately 243 percent) over the total activity levels observed during 1999 (51 mCi). The licensee indicated that this increase had predominantly occurred due to increases in the waste streams from plant inputs such as showers, sinks, drains, uranyl nitrate tank pad, etc., which were processed through holding tank 1187 prior to release to the east lagoon. The inspector observed that the licensee's procedure (COP-831201, Revision 21), stated that if the tank solution radiological activity exceeded $3.0\text{E-}06$ uCi/ml (gross alpha), tank 1187 contents were to be treated with caustic (sodium hydroxide) to induce uranium precipitates which would then be removed by recirculation through a filtration unit. The process was to be repeated if additional sampling indicated that the radiological activity was still in excess of $3.0\text{E-}06$ uCi/ml. The inspector reviewed data for several tank batches and observed that the first treatments did not sufficiently reduce the gross alpha activity concentration to less than $3.0\text{E-}06$ uCi/ml. The inspector observed that there were no redundant tanks (or excess volume capability) and that if tank 1187 was filled close to the overflow level,

the tank was released to the east lagoon even if the radioactivity level was still above the $3.0\text{E-}06$ uCi/ml administrative limit. The inspector noted that for the first three quarters of calendar year 2000, these releases above the administrative limit had caused several monthly effluent averages (process stream and miscellaneous stream (tank 1187 pathway)) to show an increase in gross alpha activity above the levels normally observed (approximately $5.0\text{E-}07$ uCi/ml in comparison to the unrestricted release limit goal of $3.0\text{E-}07$ uCi/ml). The licensee had investigated the increase in radioactivity in liquid effluents and had formulated administrative actions to reduce radioactivity contributions to final liquid effluents via the miscellaneous (i.e. showers, etc.) stream pathways feeding tank 1187. The inspector observed that the administrative corrective actions instituted by the licensee had resulted in a reduction in liquid effluents to levels consistent with and below the unrestricted release limit goal of $3.0\text{E-}07$ uCi/ml during the last quarter of calendar year 2000. The licensee had also investigated the possibility of modifying the tank 1187 treatment process in order to further reduce effluent radioactivity levels by removal of the remaining soluble uranium fraction via ion exchange. The inspector noted that although the liquid effluent radiological discharge had increased during 2000 from 1999 levels, the calculated offsite doses as a result of radioactivity in liquid effluents was <0.002 millirem/year (mRem/yr) (due to substantial river dilution) which was significantly below 10 CFR Part 20 criteria of 50 mRem/yr attributable to liquid effluents.

(3) Conclusions

The licensee met the performance and release criteria requirements for liquid effluents in 10 CFR Part 20 and SNM-1107. Total radiological activity in liquid effluents had increased approximately 243 percent during 2000 as compared to 1999 levels. The licensee's corrective action of reducing radioactivity in liquid emissions to tank 1187 had effectively reduced radiological emissions. Calculated offsite doses as a result of radioactivity in liquid effluents was significantly below 10 CFR 20 criteria.

b. Airborne Effluents Control, Procedures, Instrumentation, and Results (R3.03 and R3.04)

(1) Inspection Scope

The licensee's airborne effluents monitoring program was reviewed to verify that the program was implemented in accordance with License SNM-1107 requirements and to verify that airborne radiological releases met the requirements of 10 CFR 20 criteria.

(2) Observations and Findings

Table 2: Airborne Effluent Total Activity Released During 1999 and 2000 (microcuries)

ISOTOPE	1999 (uCi)	2000 (uCi)
Uranium (analyzed as gross alpha)	453	501

As shown by the data in Table 2, the inspector observed that the licensee had experienced a 11 percent increase in airborne effluent activity reported for 2000 (501

uCi) in comparison with total uranium (gross alpha) values reported for 1999 (453 uCi). This increase was attributable to an increase in processing operations. Several instances were observed where the action level concentration (3 E-12 uCi/ml) was exceeded. In each case, the licensee took appropriate corrective actions (High Efficiency Particulate Air (HEPA) filter change, etc.) such that the concentration was subsequently reduced to a small percentage (typically less than 20 percent) of the action level concentration. Doses to offsite receptors (taken at site boundary) from radiological emissions in airborne effluents were approximated to be <0.40 mRem/yr based on the available 2000 airborne effluent data, which is below the As Low As Reasonably Achievable (ALARA) constraint criteria in 10 CFR 20.1101 (10 mRem/yr). The inspector also observed the acquisition of airborne effluent particulate samples at several of the exhaust stack sampling stations and noted no items which would compromise sample integrity.

(3) Conclusions

The licensee had implemented the airborne effluents monitoring program in accordance with license SNM-1107. Calculated offsite doses due to airborne radiological emissions were within ALARA constraint criteria in 10 CFR Part 20.

c. On Site Waste Storage (R3.05), Waste Classification (R3.06), Waste Form and Characterization (R3.07), Waste Shipping (R3.08), and Tracking of Waste Shipments (R3.09)

(1) Inspection Scope

The licensee's Low Level Radioactive Waste (LLRW) storage, classification, and shipping program was reviewed to determine if the requirements of 10 CFR Part 20, Appendix G, and 10 CFR Part 61 were being met for waste shipments.

(2) Observations and Findings

The inspector reviewed three recent LLRW shipping manifests and noted that they contained the appropriate information and that wastes were properly classified in accordance with 10 CFR Part 20, Appendix G, and 10 CFR Part 61 requirements. The inspector also observed that the licensee had performed and received the appropriate notifications of shipment and receipt per LLRW shipment tracking regulatory requirements. In addition, the inspector toured the LLRW processing and storage facilities (Southwest Expansion Area/Drum Storage Area) and observed a polypak container (number A90238) on a carrier (number 117) in the upright condition which appeared to be partially open. The licensee investigated this condition and noted that the polypak contained incinerator ash with approximately 19 grams U-235 content. In addition, the licensee stated that the incinerator ash was contained in plastic wrapping material. The inspector noted that the improper storage of this radiological material was not consistent with good radiological control practices which the licensee acknowledged and issued an Unusual Occurrence Report (Redbook Item). The polypak contents were then properly dispositioned.

The inspector noted that the licensee had stored uranium contaminated material (used in a proprietary process) on an outside storage pad (southeastern quadrant of the plant)

until equipment modifications were made to recover the uranium. The inspector observed that the contaminated material storage drums showed significant corrosion and, in several locations, plastic which had been placed over the drums to further protect the drums from water intrusion was significantly degraded. Other drums contained labels which were not legible as to drum contents. The inspector also noted drums which contained as much as 450 grams of uranium-235 and had apparently been stored since 1997. The inspector was informed that the material contaminated with low enriched uranium did not present a criticality concern due to the homogenous nature of the material and the low hydrogenous content and that the drums were lined with plastic to prevent material leakage. The inspector discussed these problems with the licensee and was informed that tentative plans had been made to resume process treatment of the material for uranium recovery during the first quarter of 2001. However, in the event of long term process delays, severely degraded drums would be transferred to environmentally acceptable storage locations.

(3) Conclusions

The licensee was conducting the LLRW shipment and tracking program in accordance with the requirements of 10 CFR Part 20, Appendix G, and 10 CFR Part 61. A container of contaminated incinerator ash was improperly stored and posed a potential for airborne contamination. Contaminated material was being stored in corroded drums on an outside storage pad susceptible to possible water intrusion.

5. Maintenance/Surveillance (F1) (IP 88025)

a. Conduct of Maintenance (F1.01)

(1) Inspection Scope

The conduct of maintenance on process safety controls was reviewed to verify it was being adequately performed to ensure their availability and reliability.

(2) Observations and Findings

The inspectors reviewed maintenance records for work performed on safety controls associated with the bulk powder blending system and the uranium recovery system. The inspectors noted that required periodic maintenance was being performed at the needed intervals. The inspectors also noted that details of the execution of work orders were being recorded and fed back to the engineering staff for consideration of system design improvements. The inspectors also verified that functional testing was being performed prior to returning designated components to operational status.

(3) Conclusions

The conduct of maintenance on process safety controls was being adequately performed to ensure their availability and reliability.

b. Work Control Procedures (F1.02) and Work Control Authorizations (F1.03)

(1) Inspection Scope

Work control procedures for maintenance activities were reviewed to verify that they were properly approved by licensee management, and included adequate instructions for performing maintenance activities and for conducting post-maintenance functional testing of the equipment.

(2) Observations and Findings

The inspectors reviewed several procedures for Preventive Maintenance (PM) and Operator Maintenance (OM) for the bulk powder blending and uranium recovery areas. The inspectors observed that the procedures included adequate descriptions of the work to be performed and included minimal instructions for functional testing the equipment where appropriate. The inspectors also observed that these procedures were approved by the cognizant engineer for each respective area.

(3) Conclusions

The procedures for PM and OM for the bulk powder blending and uranium recovery areas were properly approved by licensee management and included adequate instructions.

c. Surveillance Testing (F1.06) and Calibrations of Equipment (F1.07)

(1) Inspection Scope

Surveillance testing and calibration of engineered safety controls were reviewed to verify tests were being performed at the frequency established to ensure availability and reliability of the controls.

(2) Observations and Findings

The inspectors reviewed the records of surveillance tests performed on the large, unfavorable geometry bulk powder containers. The inspectors observed that a series of tests were scheduled for each of these containers to ensure the integrity of specific welds and bolts that prevent powder from leaking out of the containers and prevent moisture intrusion. The inspectors found that the surveillance tests were being performed at the designated intervals. The inspectors also observed several of the bulk powder containers and found that the features covered by the surveillance tests were in adequate condition to prevent leakage into or out of the containers. The inspectors observed the calibration tags for various electronic controls used for criticality safety or material control. The inspectors found no overdue or expired calibrations.

(3) Conclusions

Surveillance testing of the bulk powder containers were adequate to ensure the availability and reliability of the engineered safety controls. Calibrations for electronic controls were being performed in accordance with established frequencies.

d. Follow up on Previously Identified Issues (F1.08)

(1) Inspection Scope

The licensee's actions to address previously identified issues were reviewed to determine completion to closure.

(2) Observations and Findings

The inspector reviewed the licensee's actions in response to VIO 00-02-02 concerning inadequate configuration management of uranyl nitrate piping system. This item was reviewed in NRC Inspection Report 70-1151/2000-006 and was found to have not been completed by the June 30, 2000 commitment date. A revised response was received by the inspector on December 6, 2000, with a revised completion date of December 31, 2000. During the week of February 26, 2001, the inspector reviewed the training given to maintenance personnel concerning the specifications for the uranyl nitrate piping system and the emphasis on configuration control of the system. The inspector found that the training adequately addressed the original concern in VIO 00-02-02, and this item was closed.

(3) Conclusions

The training provided to maintenance personnel was adequate to close VIO 00-02-02.

6. Training (F2) (IP 88010)

a. 10 CFR 19.12 Training (F2.01), General Nuclear Criticality Safety Training (F2.02), General Radiological Safety Training (F2.03), and General Emergency Training (F2.04)

(1) Inspection Scope

General employee training and testing materials were reviewed to ensure that proper instruction was being given to operators on required safety topics.

(2) Observations and Findings

The inspectors reviewed the general employee interactive training software, portions of the tests given to employees, and the plant safety manual given to each employee. The inspectors found that the training and testing adequately covered all of the safety topics required by 10 CFR 19.12 and commitments made in the facility license application. The inspectors noted two minor inaccuracies in the training due to outdated information and communicated these items to the licensee's management. The inspectors also

found that the safety manual adequately covered the topics required by the license application.

(3) Conclusions

General employee training and testing materials adequately provided proper instruction to operators on required safety topics.

b. Follow up on Previously Identified Issues (F2.07)

(1) Inspection Scope

The licensee's actions to address previously identified issues were reviewed to determine completion to closure.

(2) Observations and Findings

The inspectors reviewed the licensee's actions associated with Inspector Follow-up Item (IFI) 00-203-02 concerning annual measurement control training. Due to the licensee moving from paper-based training to computer-based training on their internal web site, most plant personnel had not been trained in measurement control, as required by the licensee's Fundamental Nuclear Material Control Plan (FNMCP), for over 18 months. The licensee had committed that measurement control training would be conducted using written tests by the end of calendar year 2000. The inspectors reviewed the measurement control training records and tests associated with the training. The inspectors found that 321 employees received the training between October and December 2000. The inspectors also found the tests adequately evaluated the knowledge of the employees on the subject matter. Thus, IFI 00-203-02 was closed.

(3) Conclusions

The measurement control training provided to personnel was adequate to close IFI 00-203-02.

7. Exit Meetings

The inspection scope and results were summarized on February 16 and March 2, 2001, with those persons indicated in the Attachment. The inspectors 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.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee Personnel

#J. Bush, Manager, Manufacturing
*R. Fischer, Senior Engineer, Regulatory Engineering and Operations
#*M. Goddard, Operations Supervisor
#*D. Goldbach, Manager, Environmental Health, and Safety
* D. Graham, Environmental Health and Safety
#*J. Heath, Manager, Integrated Safety Engineer
B. Inniss, Manager, Human Resources
#*R. Pollard, Manager, Chemical Operations
* J. Rankar, Integrated Safety Engineering
*T. Shannon, Health Physics Supervisor

Other Licensee employees contacted included engineers and technicians.

NRC Personnel

#D. Ayres, Sr. Fuel Facility Inspector, Region II
#C. Christensen, Deputy Director, Division of Nuclear Materials Safety, Region II
#M. Crespo, Fuel Facility Inspector, Region II
G. Suber, Project Manager Intern, Headquarters
*R. Swatzell, Fuel Facility Inspector, Region II

*Attended exit meeting on February 16, 2001

#Attended exit meeting on March 2, 2001

INSPECTION PROCEDURES USED

IP 84850	Radioactive Waste Management-Inspection of Waste Generator Requirements
IP 88010	Operator Training/Retraining
IP 88020	Regional Nuclear Criticality Safety Inspection Program
IP 88025	Maintenance and Surveillance Testing
IP 88035	Radioactive Waste Management
IP 88045	Environmental Protection
IP 84900	Low Level Radioactive Waste Storage

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

VIO 01-02-01 Two examples of failure to follow criticality safety posting in uranium recovery dissolver elevator.

Closed

VIO 00-02-02 Inadequate configuration management of uranyl nitrate piping system.

IFI 00-203-02 Failure of the licensee to provide annual Measurement Control Training per the FNMCP.

Discussed

None

ACRONYMS

ALARA	As Low As Reasonably Achievable
CFR	Code of Federal Regulations
CRB	Cylinder Recertification Building
FNMCP	Fundamental Nuclear Material Control Plan
HEPA	High Efficiency Particulate Air
IFI	Inspector Follow-up Item
IP	Inspection Procedure
LLRW	Low Level Radioactive Waste
uCi/ml	microcurie per milliliter
mCi	millicurie
mRem/yr	millirem/year
NRC	Nuclear Regulatory Commission
OM	Operator Maintenance
pCi/g	picocuries per gram
pCi/l	picocuries per liter
PM	Preventive Maintenance
SNM	Special Nuclear Material
U	Uranium
U-235	(Uranium-235)
VIO	Violation
WTF	Water Treatment Facility