



UNITED STATES
NUCLEAR REGULATORY COMMISSION

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

April 4, 2005

NMED No. 050102

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

SUBJECT: NRC INSPECTION REPORT NO. 70-1151/2005-002

Dear Mr. Fecteau:

The U.S. Nuclear Regulatory Commission (NRC) conducted an announced above core (regional initiative) inspection in the area of operational safety. The inspection was conducted at your facility in Columbia, South Carolina, from March 7-11, 2005. The purpose of the inspection was to determine whether activities involving licensed materials were conducted safely and in accordance with regulatory requirements. An exit meeting was held on March 11, 2005, during which time observations from the inspection were discussed with you and members of your staff.

The inspection consisted of facility walk downs; selective examinations of relevant procedures and records; examinations of safety-related structures, systems, equipment and components; interviews with plant personnel; and observations of plant conditions and activities in progress. Throughout the inspection, observations were discussed with your managers and staff.

Based on the results of this inspection, no violations of regulatory requirements occurred.

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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

Enclosure: NRC Inspection Report

cc w/encl:
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Environment, Health and Safety
Commercial Nuclear Fuel Division
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***see previous concurrence**

X SISP REVIEW COMPLETE: Initials: JLH SISP REVIEW PENDING*: Initials: _____ *Non-Public until the review is complete

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ADAMS: Yes ACCESSION NUMBER: _____

OFFICE	RII:DFFI	RII:DFFI					
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DATE	4/ /2005	4/ /2005	4/ /2005	4/ /2005	4/ /2005	4/ /2005	4/ /2005
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 70-1151

License No.: SNM-1107

Report No.: 70-1151/2005-002

Licensee: Westinghouse Electric Company

Location: Columbia, SC

Inspection Dates: March 7-11, 2005

Inspector: Manuel Crespo, Fuel Facility Inspector

Accompanying Personnel: Douglas Collins, Director, Division of Fuel Facility Inspection (DFFI)
Jay Henson, Chief, Fuel Facility Inspection Branch 2, DFFI

Approved: Jay Henson, Chief
Fuel Facility Inspection Branch 2, DFFI
Region II

Enclosure

EXECUTIVE SUMMARY

Commercial Nuclear Fuel Division
NRC Inspection Report 70-1151/2005-002

This announced inspection involved a regional initiative inspection of the licensee's plant operations. The inspection identified the following aspects of the licensee's programs as outlined below:

Plant Operations

- The licensee implemented adequate communication systems to communicate issues and events between operators and managers. Also, the new acting managers for pelleting and conversion appeared to be adequately qualified for their positions (Paragraph 2.a).
- For selected process areas, adequate safety controls and procedures were implemented in accordance with the Integrated Safety Analysis (ISA). Safety controls were present and adequately performing their safety function. Operators were knowledgeable of the safety controls for their area (Paragraph 2.b).
- Procedures were clearly written, incorporated the safety and administrative controls for the particular work area, and included instructions for normal and abnormal conditions (Paragraph 2.c).
- An inspector followup item was opened to track the licensee's actions to address that the RONAN controller on the Hydrolysis column was not tested to the setpoint stated in the ISA summary nor was it on a periodic calibration schedule (Paragraph 2.d).
- An unresolved item was opened to track the failure to sample polypaks (Paragraph 2.e).

Attachment

Persons Contacted

Inspection Procedures

Items Opened, Closed, and Discussed

Acronyms

REPORT DETAILS

1. **Summary of Plant Status**

Routine fuel manufacturing operations and maintenance activities were conducted in ammonium diuranate (ADU) conversion, Uranium Recycle and Recovery System (URRS), and pelleting. No significant plant upset conditions occurred during the inspection period.

2. **Plant Operations (Inspection Procedure (IP) 88020)**

a. Management and Administrative Practices (O3.01)

(1) Inspection Scope and Observations

The inspector interviewed upper management and operation supervisors to verify that the present work environment reflected the safety practices outlined by the license. In order to enhance the safety culture and to improve operations, the licensee was implementing a human performance program. The inspector attended one of the weekly human performance meetings and observed how operators were able to communicate concerns and issues to supervisors and managers. The meetings also provided feedback to operators about issues. The inspector also attended a shift turnover meeting in which the shift's goals and potential challenges were discussed. The inspector found the level of communication to be adequate and conducive of safety. Operators were also aware of the electronic Redbook System for initiating reviews of issues or events. No issues were noted.

The inspector reviewed the qualifications of the two new acting managers that were replacing the manager of conversion and pelleting operations. The new acting manager that will be overseeing conversion operations was a recently hired process engineer in the URRS area. The licensee recognized that the new manager lacked nuclear industry experience and was implementing training to meet this need. The inspector's discussions with the manager demonstrated adequate knowledge of the safety requirements for the operation. The inspector also held discussions with the new pelleting manager, a former team manager for the area, and found no issues.

(2) Conclusions

The licensee implemented adequate communication systems to communicate issues and events between operators and managers. Also, the new acting managers for pelleting and conversion appeared to be adequately qualified for their positions.

b. Safety Function (O3.02), Plant Activities (O3.03), Safety Training (O3.08)

(1) Inspection Scope and Observations

The inspector reviewed a sample of the integrated safety analyses (ISAs) pertaining to the conversion, bulk powder handling, and pelleting processing areas to verify that the items relied on for safety (IROFS) were properly implemented. The inspector observed the disposition of grinder sludge, bulk powder container loading and preparation, loading of uranium hexafluoride cylinders, and fitzmill powder discharge operation. The inspector noted appropriate adherence to procedures and noted the administrative IROFS were properly incorporated into the procedures. The inspector also noted the new procedure for the independent observation of the fitzmill powder discharge sampling was in place and properly implemented. The inspector found that the IROFS reviewed were in accordance with the ISAs.

During the observations of activities, the inspector discussed with operators the safety controls of their systems. The inspector found the operators to be knowledgeable of criticality safety limits for their area as well as the safety controls for their systems. The operators were also knowledgeable of the operational requirements of their areas. No issues were noted.

(2) Conclusions

For selected process areas, adequate safety controls and procedures were implemented in accordance with the ISAs. Safety controls were present and adequately performing their safety function. Operators were knowledgeable of the safety controls for their area.

c. Operating Procedures (O3.06)

(1) Inspection Scope and Observations

The inspectors reviewed selected procedures and verified that they were clearly written, incorporated the safety and administrative controls for the particular work area, and included instructions for different normal and abnormal conditions. No issues were noted.

(2) Conclusions

Procedures were clearly written, incorporated the safety and administrative controls for the particular work area, and included instructions for normal and abnormal conditions.

d. Maintenance for Safety Controls (O3.07)

(1) Inspection Scope and Observations

The inspector reviewed the preventive maintenance testing records and procedures for several IROFS in the conversion area to verify that the licensee adequately tested the controls. During the review, the inspector noted that the functional test procedure for the RONAN level transmitter for the hydrolysis column (IROFS ADUHYD-908) was not tested at the setpoint stated in the ISA summary. The ISA summary stated that the RONAN system would close the feed valves to the column if the level exceeded 75%, this prevents backflow into the uranium hexafluoride cylinders through the input nozzles. However, instead of testing the controller at the 75% level (15 inches below the input nozzles), the functional test stated that the column should be filled until the valves close, with no mention of when this should occur. Since the setpoint was not verified, if the controller was not functioning correctly, the valves could be closing at the 100% level (12 inches below the input nozzles). If the valves did not close when the RONAN reached 100%, the functional test would be considered failed. Therefore, since the test ensured that the RONAN would close the input valves at least 12 inches below the input nozzles, the safety significance of the finding appeared low.

However, the inspector also noted that the RONAN system was not on a periodic calibration schedule. These observations concerning the RONAN system were brought to the attention of the licensee. The licensee acknowledged the inconsistencies and stated a correction needed to be made. The licensee's actions to correct these observations will be tracked as Inspector Follow-up Item (IFI) 2005-002-01: Inaccurate Testing of RONAN.

The inspector found no other issues with the IROFS reviewed in the conversion area.

(2) Conclusions

An IFI was opened to track the licensee's actions to address that the RONAN controller on the Hydrolysis column was not tested to the setpoint stated in the ISA summary nor was it on a periodic calibration schedule.

e. Review of Previous Events (O3.12)

(1) Inspection Scope and Observations

The inspector reviewed the events related to the failure to sample every polypak from the fitzmill discharge (NRC Event 41424, Nuclear Materials Events Database (NMED) No. 050102). On February 29, 2005, the licensee had identified issues with powder sampling at the fitzmill discharge. The procedure for the area required that every polypak be sampled using the appropriate tools provided in the fitzmill discharge enclosure. During an audit of the area, the licensee noted that some operators were not sampling every polypak. The licensee stopped the operation and instructed the operators that every polypak was to be sampled. The operation (on line 4) was then observed again later that shift. The observers noted again that operators were not sampling every polypak. The licensee then decided to dismiss the two operators that

were failing to following procedures. The licensee also implemented an independent observation of the operation to ensure that every polypak was properly sampled. The sampling of every polypak was an IROFS important for the implementation of criticality safety (moderation control).

Following this corrective action, an operator was identified to be using the incorrect tool for sampling polypaks. This operator was also dismissed due to failing to use the correct tool after being corrected by the independent observer. The review of the issue was not completed by the conclusion of the inspection, therefore Unresolved Item (URI) 2005-002-01: Failure to Sample Polypaks will be opened to track the issue.

(2) Conclusions

An URI was opened to track the failure to sample polypaks.

f. Follow-up on Previously Identified Issues (O3.13)

(1) (Open) Violation (VIO) 70-1151/2004-05-02: Failure to Perform Periodic Reviews of Procedures

This violation was identified for the failure to perform routine reviews of procedures. At the time of this inspection, nearly all the procedures had obtained their appropriate review. The remaining 18 procedures (none of which involve chemical operating procedures) had been identified as needing revising. Corrective Actions Process (CAPs) commitments were opened to see that the procedures are properly dispositioned. This item will remain open until these procedures have been properly updated and reviewed.

3. Exit Meeting

The inspection scope and results were summarized on March 11, 2005, 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
M. Fecteau, Plant Manager
D. Graham, Environmental, Health and Safety (EH&S) Technician
F. Jackson, Acting Conversion Area Manager
S. McDonald, EH&S Manager
G. Page, Maintenance Department Manager
T. Shannon, EH&S Operations Manager
R. Winiarski, Nuclear Criticality Safety Manager

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

2. **INSPECTION PROCEDURES USED**

IP 88020 Regional Criticality Safety Inspection Program

3. **LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

<u>Item Number</u>	<u>Status</u>	<u>Description</u>
70-1151/05-02-01	Opened	IFI - Inaccurate Testing of RONAN (Paragraph 2.d)
70-1151/05-02-02	Opened	URI - Failure to Sample Polypaks (Paragraph 2.e)
70-1151/04-05-02	Discussed	VIO - Failure to Perform Periodic Reviews of Procedures (Paragraph 2.f)

4. **LIST OF ACRONYMS USED**

ADAMS	Agency-Wide Document Access and Management System
ADU	Ammonium Diuranate
CAPs	Corrective Action Process
CFR	Code of Federal Regulations
IFI	Inspector Followup Item
IP	Inspection Procedure
IROFS	Items Relied on for Safety
ISA	Integrated Safety Analysis
URI	Unresolved Item
URRS	Uranium Recycle and Recovery System
VIO	Violation