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

October 21, 2005

Framatome ANP
ATTN: Mr. Robert Freeman
Plant Manager
Mount Athos Road Facility
P. O. Box 11646
Lynchburg, VA 24506-1646

SUBJECT: NRC INSPECTION REPORT NO. 70-1201/2005-003

Dear Mr. Freeman:

This refers to the inspection conducted from September 19 - 22, 2005, at your Lynchburg, Virginia facility. 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 report.

Areas examined during the inspection were: environmental protection, waste management, low level radioactive waste, waste generator, and radiological controls. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observation of activities in progress.

Within the scope of the inspection, violations or deviations were not identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

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

Sincerely,
/RA/

David A. Ayres, Chief
Fuel Facility Inspection Branch 1
Division of Fuel Facility Inspection

Docket No. 70-1201
License No. SNM-1168

Enclosure: (See page 2)

Enclosure: NRC Inspection Report

cc w/encl:
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REGION II

Docket No.:	70-1201
License No.:	SNM-1168
Report No.:	70-1201/2005-003
Licensee:	Framatome ANP
Facility:	Lynchburg Facility
Location:	Lynchburg, VA
Dates:	September 9 - 22, 2005
Inspectors:	C. Taylor, Fuel Facility Inspector N. Ashkeboussi, Nuclear Safety Intern
Approved by:	D. A. Ayres, Chief Fuel Facility Inspection Branch 1 Division of Fuel Facility Inspection

Enclosure

EXECUTIVE SUMMARY

Framatome ANP
NRC Inspection Report 70-1201/2005-003

This routine, announced inspection included observations and evaluation of the following programs: environmental protection, waste management, low level radioactive waste, waste generator requirements, and radiological controls specific to the Service Equipment Refurbishment Facility (SERF) 5. The inspection involved observations of work activities, reviews of selected records, and interviews with plant personnel. The inspection identified the following aspects of the licensee programs as outlined below:

Radiation Protection

- Instruments and equipment in the SERF 5 building were operational and performed the intended safety function. An adequate preventive maintenance system was in place to track and identify instruments needing calibration, repair and functional testing (Paragraph 2.a).

- External exposures in the SERF 5 area were significantly below the regulatory limits and internal exposures were less than the limits required for monitoring (Paragraph 2.b).

- The inspector noted during SERF 5 walk-downs that radiological postings and radiation work permits (RWPs) were appropriate, and communicated the potential hazards and area protective equipment requirements for workers (Paragraph 2.c).

- The inspector concluded from program documentation reviewed and interviews that the licensee was properly implementing a program to maintain exposures as low as is reasonably achievable (ALARA) (Paragraph 2.d).

Environmental Protection

- The licensee's environmental monitoring procedures were acceptable and approved by management. There were no major changes to the procedures since the last inspection (Paragraph 3.a).

- The environmental audit program was consistent with the requirements specified in the license application. The environmental program audits were thorough and corrective actions were tracked to resolution (Paragraph 3.b).

- The licensee maintained an acceptable quality control program for collecting and analyzing measurements from environmental samples (Paragraph 3.c).

- The licensee adequately implemented the environmental monitoring requirements as set forth in the license application (Paragraph 3.d).

Radioactive Waste Management

- The calculated offsite dose from radioactivity in airborne radiological emissions and to the closest member of the public was **within the regulatory requirements as specified in 10 CFR Part 20 (Paragraph 4.a).**

- No significant problems were identified with the effluent monitoring equipment, and no deviations from the procedures were observed (Paragraph 4.b).

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 5.a).

Waste Generator Requirements

- The licensee's program for the management and shipment of LLRW for disposal met the requirements of the regulations (Paragraph 6.a).

Attachment:
List of Persons Contacted
Inspection Procedures Used
List of Items Opened, Closed, Discussed
List of Acronyms Used

REPORT DETAILS

1. Summary of Plant Status

There were no plant upsets or unusual operational occurrences during the onsite inspections.

2. Radiation Protection (83822)

a. Program Equipment (R1.03)

(1) Inspection Scope and Observations

Equipment used to identify the presence of radioactive materials on smears, air samples, and personnel in the Service Equipment Refurbishment Facility (SERF) 5 building was examined to determine if the selected equipment was adequately maintained and reliable to perform the intended safety function. The inspector interviewed personnel performing operability checks on laboratory analytical equipment and survey meters. The documentation for selected equipment routine checks, calibrations and functional testing was reviewed and cross-checked against the licensee's preventive maintenance program and procedures. Based on interviews and a review of documentation for the period July 2004 to June 2005, the selected equipment was properly maintained, and results from the operability checks and calibrations indicated that the equipment provided reliable results.

(2) Conclusions

Instruments and equipment in the SERF 5 building were operational and performed the intended safety function. An adequate preventive maintenance system was in place to track and identify instruments needing calibration, repair and functional testing.

b. External and Internal Exposure Control (R1.04 and R1.05)

(10) Scope and Observations

The inspector reviewed and discussed with the licensee's staff the SERF 5 personnel monitoring results to determine if exposures were in compliance with 10 CFR Part 20 limits, and if controls were in place to maintain occupational doses as low as reasonably achievable (ALARA). The licensee had anticipated from ALARA evaluations an increase in external radiation but no significant increase for internal exposures based on the type of work performed. However, operators were required to wear lapels and/or respirators in areas where airborne radioactivity may exist. The licensee utilized static air samplers and ALARA evaluations to determine internal hazards on a case by case basis.

The inspector reviewed personnel dosimeter results to determined the exposure levels during 2004 and first and second quarters of 2005. Based on dosimeter results and interviews with SERF 5 operators in the area, all exposure levels were well below the regulatory limits established in 10 CFR 20.1201. The inspector noted that all areas

except the total effective dose equivalent (TEDE) were slightly below the 10 percent monitoring threshold limits set forth in 10 CFR Part 20. The Table below displays the highest external doses in millirem from August 2004 through July 2005.

Highest External Dose in SERF 5 Area

TEDE [1]	TODE [2]	SDE [3] (extremities)	SDE(skin)	LDE [4]
727	746	1236	881	724

[1]TEDE-Total Effective Dose Equivalent, 10% monitoring threshold of 500 mrem
[2]TODE- Total Organ Dose Equivalent, 10% monitoring threshold of 5000 mrem
[3]SDE- Shallow Dose Equivalent, 10% monitoring threshold for extremities and the skin 5000 mrem
[4]LDE-Lens Dose Equivalent, 10% monitoring threshold of 1500 mrem

During facility walk-downs, the inspector observed personnel donning the appropriate personnel protective clothing. This included the use of whole body personnel monitoring badges, finger badges, protective clothing and the use of survey meters. In addition, the operators when questioned were knowledgeable about the radiological hazards and principals of time, distance, and shielding techniques.

Based on the current site activity, the licensee's personnel monitoring program for external and internal exposures in the SERF 5 area was properly implemented. No regulatory or license limits were exceeded.

(2) Conclusion

External exposures in the SERF 5 area were significantly below the regulatory limits and internal exposures were less than the limits required for monitoring.

c. Postings, Labeling and Control (R1.07)

(1) Scope and Observations

Several work locations in the SERF 5 building were examined to determine if radioactive containers and equipment were properly labeled and to assess the adequacy of contamination control barriers and posting of radiation areas as required by 10 CFR 20.1902. The facility layout and the radiation work permits (RWPs) were reviewed to determine the adequacy of the requirements posted for worker protection and the degree to which those requirements were being implemented.

All observed work areas involving radioactive material or potentially contaminated material were properly posted. Selected containers and equipment examined during facility tours were labeled or had other markings on the containers in accordance with requirements. During walk-downs, the inspector noted that the building had been divided into separate servicing areas, each with separate entry points and step-off pads. Equipment showing higher exposure rates was located in areas of reduced traffic flow to minimize the exposure to workers. The licensee had one high radiation area as verified by the inspector's independent surveys. The area was properly posted and controlled.

The inspector reviewed several RWPs associated with maintenance activities and determined that the selected RWPs and postings were adequate for the type of work being performed. The inspector observed that instruments used to measure radioactive contamination and airborne radioactivity were in proper working condition. The inspector observed personnel exiting contamination areas and the restricted area and noted that personnel contamination surveys were properly performed.

Based on interviews and a review of documentation, the inspector determined that management was aware of issues raised by health physics staff and technicians. The licensee's staff was cognizant of the RWPs that were active, and current survey maps were available to show areas of exposure rate and contamination.

(2) Conclusions

The inspector noted during SERF 5 walk-downs that radiological postings and RWPs were appropriate, and communicated the potential hazards and area protective equipment requirements for workers.

d. Implementation of ALARA Program (R1.10)

(1) Scope and Observations

The ALARA program regarding the SERF 5 building was reviewed to determine if the program and ALARA goals were developed and implemented in accordance with the license. In addition, the program for reinforcing the ALARA concept among employees was assessed. Managers, operators and radiation protection **technicians were interviewed regarding ALARA and demonstrated an adequate knowledge of the ALARA concepts regarding time, distance and shielding. The licensee's radiation supervisor and health physics technicians were questioned regarding hot particles and other potential contamination hazards. The inspector noted that the staff was aware of the hazards and had addressed the concerns during their ALARA evaluations. The inspector reviewed several ALARA evaluations and noted no concerns.**

The inspector determined that the 2004 ALARA annual report was reviewed by management, and included detailed ALARA goals and exposure summaries to identify undesirable trends in the SERF 5 area. The inspector also noted that due to the increased workload in the SERF 5 area, two permanent health physics technicians had been assigned since the last inspection.

(2) Conclusions

The inspector concluded from program documentation reviewed and interviews that the licensee was properly implementing a program to maintain exposures ALARA.

e. Follow up on Previously Identified Issues (R1.12)

(Closed) IFI 70-1201/2005-01-01: Revise procedure SL1231 "Respiratory Protection Program" to include operability, maintenance, calibration, and testing of the supplied air respirator system, and the newly purchased quantitative respirator fit test system.

The licensee had revised procedure SL 1231, "Respiratory Protection Program" to include a section on operability, maintenance, calibration, and testing of the newly purchased quantitative respirator fit test system and a supplied air respirator system that used ambient air as the source of air supply. The inspector noted that the procedure was revised to include the statement "follow the manufacturer specifications." In addition, the licensee committed to training additional personnel by the end of November 2005, in the use of the gas detector that is used in conjunction with the supplied air respirator system.

3. Environmental Protection (IP 88045)

a. Program/Procedure Changes (R2.01)

(1) Scope and Observations

The licensee's environmental program was reviewed to verify that environmental monitoring was implemented in accordance with Chapter 9 of the license application. The inspector discussed with the staff involved in the environmental monitoring program changes that occurred in the organization since the last inspection. The inspector noted that no major changes had occurred. The inspector verified that the environmental monitoring program authority and responsibilities were delineated and designated in writing.

The inspector reviewed program changes (administrative and procedurally) since the last inspection and verified that management had approved revisions to procedures which implemented various environmental monitoring activities. No problems were noted.

(2) Conclusions

The licensee's environmental monitoring procedures were acceptable and approved by management. There were no major changes to the procedures since the last inspection.

b. Internal Audits and Inspections (R2.02)

(1) Scope and Observations

The inspector reviewed documentation for informal inspections and self-assessments to determine the status of findings identified and tracked in the corrective action program. Based on document reviews, and interviews with the licensee's staff, the inspector found that the licensee's Safety and Licensing department was conducting annual internal audits of the environmental protection program. The last audit was conducted on July 28, 2005. The auditors used a checklist to verify that the reports were generated in a timely fashion and the procedures were current and maintained in accordance with the license application and regulatory requirements. Performance-based inspections of the environmental protection program was the responsibility of the radiation protection staff. When problems were identified during daily sample collection, findings were tracked to

resolution in the corrective action program. The inspector noted that the manager of the environmental monitoring program actively tracked findings and was involved with the process of screening and distributing corrective action to the radiation safety staff.

(2) Conclusions

The environmental audit program was consistent with the requirements specified in the license application. The environmental program audits were thorough and corrective actions were tracked to resolution.

c. Quality Control of Analytical Measurements (R2.03)

(1) Scope and Observations

The inspector reviewed the licensee's quality control program for environmental samples. The inspector reviewed selected environmental monitoring and sampling results for the environmental program and verified that there were no significant anomalies or errors in the data generated in-house or from a vendor. The inspector also verified that the licensee had an adequate chain of custody process in place for the environmental samples.

(2) Conclusions

The licensee maintained an acceptable quality control program for collecting and analyzing measurements from environmental samples.

d. Monitoring Stations, and Monitoring Program Reports (R2.05/2.06)

(1) Scope and Observations

The inspector reviewed the licensee's compliance with Chapter 9 of the license application. Monitoring results for surface water, soil, vegetation, sediment, ground water wells, and environmental air samples were reviewed to assess the radiological impact to the environment due to plant operations. The licensee's 2004 and first quarter 2005 results for these environmental samples were collected at the required frequency and the radionuclide concentrations were consistently within the regulatory requirements of 10 CFR Part 20, Appendix B, Table 2.

The inspector observed the condition of selected environmental monitoring equipment located around the perimeter of the facility. The inspector observed a technician changing out air sampling filters and thermoluminescent dosimeters (TLDs) around the site boundary. The inspector noted that the sampling equipment was functional and the licensee had replaced all of the air sampling equipment at the monitoring stations. The updated equipment included new sampler heads, timers, hoses, pumps and housing around the monitoring systems. At the time of the inspection, no sampling collection for water, soil, or vegetation had been scheduled. The inspector had technicians demonstrate how the various samples would be collected and prepared for transport to the vendor for analysis. No significant problems were identified with their technique versus the procedure, SL 1270, "Environmental Monitoring."

(2) Conclusions

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

4. Radioactive Waste Management (IP 88035)

a. Radioactive Airborne Effluents, and Records and Reports (R3.01/3.03)

(1) Scope and Observations

The licensee's airborne effluent program was reviewed for compliance with the requirements of 10 CFR Part 20, 10 CFR 70.59 and Chapter 9 of the license application. The inspector reviewed the licensee's semi-annual effluent reports for 2003, 2004, and the first half semi-annual report for 2005.

Radioactivity in Gaseous Effluents Released For Year 2003, 2004 and 1st Semi-Annual 2005

Types of Radiation Activity[2]	2003 (uCi)[1]	2004 (uCi)	2005 (uCi)[3]
gross alpha	0.60	0.83	0.26
gross beta	87.12	101.37	28.86
Total Activity	87.73	102.20	29.11

[1] uCi-Microcuries
[2]The radionuclides include U-234, U-235, U-236, U-238 for alpha and Co-60 for beta
[3] Data monitoring period from January 2005 to June 2005

The inspector reviewed the total quantities of radioactive materials in airborne effluents released in 2003 and 2004. The inspector observed that the licensee had experienced a slight increase in the 2004 data when compared to 2003 for alpha activity and a much larger increase for beta activity. The licensee attributed the increase in beta to the opening of the SERF 5 area and for alpha an increase in productivity in the uranium operations. Total activity for alpha was below the licensee action level of 10 uCi/quarter (alpha). The largest average beta activity concentration was less than 10 percent of the licensee's action level of (1.25E-11 uCi/ml).

The licensee does not generate liquid effluents to be released offsite. Potentially contaminated liquid effluents are processed through an evaporator and released as gaseous effluents through the high efficiency particulate air (HEPA) filtration system. The licensee was required to perform monthly checks of the evaporator pans for build-up of liquid and sludge. The inspector reviewed records for the monthly checks and observed the evaporator pan in the uranium fuel operation's area. No problems were noted.

The TEDE to an individual at the point of release from the highest stack was calculated by the licensee to be 9.766 mrem/yr which was below the annual dose constraint limit of 10 mrem/yr as specified in 10 CFR Part 20. The licensee's calculation assumed the member of the public was standing at the point of release (stack) rather than the site boundary.

(2) Conclusions

The calculated offsite dose from radioactivity in airborne radiological emissions and to the closest member of the public was within the regulatory requirements as specified in 10 CFR Part 20.

b. Effluent Monitoring Instruments and Procedures (R3.04)

(1) Scope and Observations

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

The inspector reviewed selected portions of the following procedures pertaining to the radioactive effluent monitoring program:

- SL1270, "Environmental Monitoring"
- SL 1285, "Isotopic Activity Calculations Methods"
- SL 1304, "Waste Water Effluent Control"

(2) Conclusions

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

5. Low-Level Radioactive Waste Storage (IP 84900)

Management Controls and Surveys, Adequacy of Storage Area, Package Integrity and Labeling, and Radioactive Solid Waste (R5)

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 and SERF areas into lined drums. The bags were eventually transferred into sea-land containers for burial transport. The licensee further segregated the fuel and SERF contaminated waste into their own distinct sea-landers. 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 labeling,

including the quantity of radionuclides. Also, the inspector reviewed documentation for packaging LLRW material into a sea-land container for burial and shipment. At the time of the inspection, no shipments were scheduled. No issues were identified.

b. Conclusions

The licensee's program for the storage, labeling, shipping, and tracking of LLRW was adequately meeting regulatory requirements.

6. Waste Generator Requirements (IP 84850)

Management Controls, Quality Assurance, Waste Manifests, Waste Classification, Waste Form and Characterization, Waste Shipment Labeling, and Tracking of Waste Shipments (R.6)

a. Scope and Observations

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

The inspector's review of LLRW shipments made in 2004 and the first half of 2005 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.

7. Exit Interview

The inspection scope and results were summarized on September 22, with those persons indicated in the attachment. Although proprietary documents and processes were occasionally reviewed during this inspection, the proprietary information was not included in this report.

ATTACHMENT

1. LIST OF PERSONS CONTACTED

Licensee

R. Freeman, Site Manager
C. Holman, Manager, Environmental, Health, Safety and Licensing

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

2. INSPECTION PROCEDURES USED

IP 83822	Radiological Protection
IP 88045	Environmental Protection
IP 88035	Waste Management
IP 84900	Low Level Radioactive Waste Management
IP 84850	Waste Generator Requirements

3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Item Number	Status	Description
70-1201/2005-01-01	Closed	IFI - Revise SL 1231 "Respiratory Protection Program" to include operability, maintenance, calibration, and testing of the supplied air respirator system, and the newly purchased quantitative respirator fit test system (Paragraph 2.e).

4. LIST OF ACRONYMS USED

ADAMS	Agency-Wide Document Access Management System
ALARA	As Low As Reasonably Achievable
CFR	Code of Federal Regulations
HEPA	High Efficiency Particulate Aerosol
IFI	Inspector Followup Item
IP	Inspection Procedure
LDE	Lens Dose Equivalent
LLRW	Low Level Radioactive Waste
mrem	Millirem
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records System
RWP	Radiation Work Permits
SAR	Supplied Air Respiratory System
SDE	Shallow Dose Equivalent
SERF	Service Equipment Refurbishment Facility
SNM	Special Nuclear Material
TLD	Thermoluminescent Dosimeter

TEDE	Total Effective Dose Equivalent
TODE	Total Organ Dose Equivalent
uCi	Micro Curie