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NUCLEAR REGULATORY COMMISSION
REGION II
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ATLANTA, GEORGIA 30303-8931

November 23, 2001

Framatome ANP, Inc.
ATTN: Mr. J. E. Matheson
Plant Manager
Lynchburg Manufacturing Facility
P. O. Box 11646
Lynchburg, VA 24506-1646

SUBJECT: NRC INSPECTION REPORT NO. 70 -1201/2001-05

Dear Mr. Matheson:

This refers to the inspection conducted on October 22-25, 2001, at the Lynchburg Manufacturing Facility. The enclosed report presents the results of this inspection.

During the inspection period, your conduct of activities at the Lynchburg Manufacturing Facility was generally characterized by safety-conscious operations, sound engineering and maintenance practices, and careful radiological work controls.

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

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. 70-1201
License No. SNM-1168

Enclosure: NRC Inspection Report

cc w/encl: (See page 2)

cc w/encl:
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OFFICE	RII:DNMS	RII:DNMS				
SIGNATURE	/RA/	/RA by E. McAlpine for/				
NAME	AGooden	DSeymour				
DATE	11/22/2001	11/23/2001				
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 70-1201

License No.: SNM-1168

Report No.: 70-1201/2001-05

Licensee: Framatome ANP - Lynchburg

Facility: Lynchburg Manufacturing Facility

Location: Lynchburg, VA

Dates: October 22-25, 2001

Inspector: A. Gooden, Health Physicist

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

Enclosure

EXECUTIVE SUMMARY

Framatome ANP - Lynchburg
NRC Inspection Report No. 70-1201/2001-05

This routine unannounced inspection involved observation of work activities, a review of selected records, and interviews with plant personnel pertaining to the radiation protection and emergency preparedness programs. The report covers a four-day inspection effort by a regional-based inspector.

- External exposures were significantly less than occupational limits in 10 CFR 20.1201. If exposures for the second half of the calendar year are consistent with the first half, the yearly exposures will be the lowest since 1997 (Paragraph 2.a).
- Effective controls were in place to prevent unauthorized users from obtaining respiratory protection equipment (Paragraph 2.c).
- Discrepancies were identified between the QC-1440 Training Requirements Document (TRD) and the requirements contained in the HIS-20 and computer based training system (Paragraph 3.c).
- The inconsistencies between training requirements outlined procedurally and requirements within the CBTS did not lend itself to an effective tracking and documentation system. The current practice of allowing personnel to review the annual evacuation drill critique documentation in lieu of drill participation may reduce the effectiveness of the individual to respond properly during an event (Paragraph 3.c).
- The exercise and drill program remains ineffective in testing the totally integrated emergency organization and key components of the response program (emergency classification, exposure control, interface with offsite support groups, and internal communications). Critiques were effective in identification of areas requiring corrective actions (Paragraph 3.d).

Attachment:

Persons Contacted and Exit Meeting
Inspection Procedures Used
List of Items Opened, Closed, and Discussed
List of Acronyms

REPORT DETAILS

1. **Summary of Plant Status**

There were no plant upsets or unusual operational occurrences during the inspection. No pellet loading occurred during the inspection but other plant operations were normal with typical activities for the service equipment refurbishment facility (SERF) ongoing.

2. **Radiation Protection (83822) (R1)**

a. External Exposure Control (R1.04)

(1) Inspection Scope

The inspector reviewed licensee procedures and interviewed personnel to determine if controls were in place to monitor occupational doses, and verify that administrative limits were established to control occupational doses as low as is reasonably achievable (ALARA). Personnel exposure data for 2000 and thus far 2001 were examined to determine if exposures were in compliance with 10 CFR Part 20.1201 limits.

(2) Observations and Findings

Based on procedural reviews, and interviews, the licensee's monitoring program was consistent with requirements in 10 CFR 20.1502 for monitoring occupational exposure. Procedures contained action limits, and dose goals were established to ensure that exposures were less than limits in 10 CFR 20.1201. Since the last inspection of this area, the licensee had completed a study comparing the sensitivity of the thermoluminescent dosimeter (TLD) to the optically stimulated luminescent dosimeter (OSL) for responding to the types of radiation resulting from site operations. Based on the study results, the licensee determined that the OSL dosimeter was several times more sensitive and possibly over-responding. Consequently, the vendor and type of dosimetry used for monitoring external exposure were changed. Documentation was reviewed to show that the monitoring program continued to meet license conditions, and the processor was certified by the National Voluntary Laboratory Accreditation Program (NVLAP). The inspector reviewed and compared assigned exposures for calendar year (CY) 1999, 2000, and 2001 (see Table 1). All exposures were less than occupational limits in 10 CFR 20.1201. Through August 2001, the maximum estimated total effective dose equivalent (TEDE) for the calendar year was 0.648 rem.

Table 1. Annual Exposures

Year	Deep Dose Equivalent (DDE)	Shallow Dose Equivalent (SDE)	Total Effective Dose Equivalent (TEDE)	Collective TEDE (person-rem)	Committed Effective Dose Equivalent (CEDE)
1999	0.500 rem	1.90 rem	2.19 rem	31.49	1.82 rem
2000	0.581 rem	1.27 rem	1.42 rem	22.30	0.99 rem
*2001	0.321 rem	0.666 rem	0.648 rem	14.07	0.483 rem

***Note:** Exposure results based on exposure data as of August 2001

(3) Conclusions

The inspector concluded from the records review and interviews that the external exposure control program was adequate for evaluating and monitoring personnel exposures. External exposures were significantly less than occupational limits in 10 CFR 20.1201. If exposures for the second half of the calendar year are consistent with the first half, the yearly exposures will be the lowest since 1997.

b. Internal Exposure Control (R1.05)

(1) Inspection Scope

The inspector reviewed controls for assessing internal exposure to verify that administrative and physical controls were in place to control occupational dose ALARA. Exposure data based on air sampling results were reviewed to determine if exposures resulting from various plant operations exceeded limits in 10 CFR 20.1201.

(2) Observations and Findings

Table 1 above presents the maximum assigned committed effective dose equivalent (CEDE) exposure data for CY 1999, 2000, and CY 2001. The maximum assigned CEDE in CY 2001 as of August (0.483 rem) was approximately forty-nine (49) percent of the maximum assigned CY 2000 exposure (0.99 rem), and significantly less than occupational limits in 10 CFR 20.1201. The collective exposure thus far in CY 2001 (14.07 person-rem TEDE) was approximately sixty-one (61) percent of CY 2000 exposure (22.30 person-rem TEDE).

(3) Conclusions

Based on the interviews and documentation reviewed, the inspector determined that the licensee's internal exposure control program was adequate for evaluating and monitoring personnel exposures. Administrative dose limits were established and all

assigned exposures were well below the regulatory limits. Exposures thus far appears to be the lowest since 1997.

c. Respiratory Protection (R1.06)

(1) Inspection Scope

Controls for respiratory protection equipment issuance, storage, and training were reviewed for adequacy in assuring that equipment was properly maintained and being obtained by certified users only.

(2) Observations and Findings

Two locations were designated for storage and issuance of respiratory equipment used in routine or special operations. The inspector noted during the facility tours that both locations were maintained under lock and key, and respirator issuance was controlled by Radiation Technicians. In addition to the physical controls, the licensee had implemented an administrative program for tracking usage and verification of training via a respiratory issue and tracking log. No problems were noted when names of respiratory users were selected for verification that personnel had been certified to use equipment.

(3) Conclusions

Effective controls were in place to prevent unauthorized users from obtaining respiratory protection equipment.

d. Notifications and Reports (R1.09)

(1) Inspection Scope

The licensee's file containing Safety and Licensing Deficiency Reports (SLDR) was reviewed for determining the reportability of events to NRC and workers. The availability of worker's exposure data was reviewed.

(2) Observations and Findings

Randomly selected SLDR reviewed covering the period January 3 through September 21, 2001, did not require notification to NRC. Appropriate follow up actions had been taken in response to each report reviewed. For incidents which required worker notification in the event of a potentially elevated air sample, the licensee provided follow up. Select employees were questioned regarding the availability and/or provision of exposure data by the licensee. In response, interviewees indicated that once a year the info was provided and further believed the data would be available on request if needed. The availability of exposure reports to employees was further corroborated by review of employee mailing labels for the CY 2001 reports mailed April 25, 2001, and by observing the performance of the dosimetrist in obtaining exposure reports and training information from the HIS-20 data collection and management system.

(3) Conclusions

Based on licensee performance, interviews, and documentation, the inspector determined that notification and reporting was being done in accordance with requirements in the license and 10 CFR 19.13. The SDLRs selected for review did not require notification to NRC.

e. Implementation of ALARA Program (R1.10)

(1) Inspection Scope

The licensee's ALARA program was reviewed to determine if the program and ALARA goals were being developed and implemented in accordance with the license. In addition, the program for reinforcing ALARA concept among employees was assessed.

(2) Observations and Findings

On a quarterly basis the Safety Review Board (SRB) met to review site exposure data, radiological deficiencies, contamination levels, and status of projects. Issues were tracked for resolution and trending to identify undesirable trends.

(3) Conclusions

Based on records review and interviews, the inspector concluded that the licensee's ALARA program was being properly implemented.

3. **Emergency Preparedness (88050) (F3)**

a. Review of Program Changes (F3.01)

(1) Inspection Scope

Changes to the emergency response program since the last inspection were reviewed to determine the effectiveness on the program, and to verify that procedural changes were reviewed by plant management and the Emergency Officer.

(2) Observations and Findings

Since the last inspection of the emergency response program, several key positions to the emergency organization including the day to day responsibility for emergency planning was reassigned. The reassignments would not appear to impact the effectiveness of the response program due to the majority of the personnel having previously been assigned to the emergency organization.

3) Conclusions

The most significant program changes involved the reassignment of the responsibility as the Emergency Officer (EO), and the Fire Brigade Captain. The reassignments did not appear to impact the effectiveness of the program.

b. Implementing Procedures (F3.02)

(1) Inspection Scope

In lieu of a NRC required Emergency Plan (exemption granted April 1994), the inspector reviewed licensee procedures governing the implementation of the emergency response program at the Lynchburg Manufacturing Facility (LMF) to determine the adequacy of procedures in program implementation.

(2) Observations and Findings

The following procedures were reviewed in detail by the inspector:

- Procedure QC-1440, LMF Site Training Activities, incorporated the training requirements for personnel previously captured in Procedure SL-1140, Employee Safety Training. The inspector noted during the review that discrepancies exist between the QC-1440 Training Requirements Document (TRD) and the requirements contained in the HIS-20 and computer based training system (CBTS). For example, the CBTS may have included as a requirement for Emergency Team members general first aid. However, the QC-1440 TRD listing of required training did not include general first aid. The inspector also discussed with the licensee an inconsistency between the TRD and Exhibit B to QC-1440. In response to the inspector's observations, the licensee acknowledged that there were inconsistencies and attributed the inconsistencies in part to software problems associated with the HIS-20 and CBTS. The licensee stated that an individual was recently assigned to review and resolve software problems associated with the HIS-20 and CBTS. The licensee was informed that the corrective actions to resolve software problems and the inconsistencies between the database information and QC-1440 training requirements was considered an inspector follow up item (IFI 70-1201/2001-05-01).
- Procedure SL-1308 entitled "Emergency Procedure", Section 3 (General), stated that events classified as an "Alert", due to loss of criticality controls, and events classified as a "Site Area Emergency", such as a criticality, mandate the notification of the NRC. Section 11.3 of SL-1308 (Site Area Emergency Classification) mandates notification of NRC within one hour of declaration. However, no time commitment was included following the Alert declaration. Further, the notification time was not addressed in Addendum 11 to SL-1308 (Loss of Criticality Controls). In response to the inspector's observations, the licensee took prompt action to revise SL-1308 (Revision 5) to require notification of NRC within one hour of an Alert or Site Area Emergency declaration. The

licensee expressed plans to also revise Addendum 11 to SL-1308 to reflect the one hour notification to NRC.

- Addendum 16 to SL-1308 entitled "Aircraft Threats" was written and implemented in the aftermath of events associated with the World Trade Center terrorist attacks. The referenced procedure provided guidance in response to attempted aerial threats.

Based on the above procedures review, the inspector determined that a detailed procedures review was warranted by the licensee to remove inconsistencies and typographical errors.

(3) Conclusion

Discrepancies were identified between the QC-1440 Training Requirements Document (TRD) and the requirements contained in the HIS-20 and computer based training system (CBTS). A detailed review of procedures would resolve typographical errors and inconsistencies within procedures, TRDs, and exhibits.

c. Training and Staffing of Emergency Organization (F3.03)

(1) Inspection Scope

Emergency response training was reviewed to determine if the licensee had provided training to response personnel in accordance with Procedures QC-1140 (LMS Site Training Activities) and SL-1308 (Emergency Procedure).

(2) Observations and Findings

The inspector requested training for individuals currently assigned to the Emergency Team Roster to verify that training was up-to-date. As discussed in Paragraph 3b, inconsistencies between training requirements outlined procedurally and requirements within the CBTS did not lend itself to an effective tracking and documentation system. The inspector was able to resolve training for emergency personnel via interviews with personnel assigned the responsibility for Emergency Team training, training attendance sheets, physical exams, and training outline. The inspector noted during the review of the TRDs for various emergency positions that members of the emergency organization may review the annual evacuation drill critique in lieu of actual drill participation. The inspector discussed the lack of requirement for some periodic drill participation over a specified period as an area for improvement in that personnel could maintain qualifications indefinitely without any hands-on participation and result in a false sense of readiness during an event.

During the period of the inspection, the licensee conducted meetings with law enforcement personnel from the State, local, and federal agencies to discuss response to security events and other matters of a mutual concern.

(3) Conclusion

The inconsistencies between training requirements outlined procedurally and requirements within the CBTS did not lend itself to an effective tracking and documentation system. The current practice of allowing personnel to review the annual evacuation drill critique documentation in lieu of drill participation may reduce the effectiveness of the individual to respond properly during an event.

d. Drills and Exercises (F3.05)

(1) Inspection Scope

This area was reviewed to determine if the licensee was conducting evacuation drills and biennial exercises in accordance with Procedures SL-1308 (Emergency Procedure) and QC-1440 (LMF Site Training Activities).

(2) Observations and Findings

Documentation disclosed that the licensee was periodically conducting drills and exercises in accordance with procedures. However, exercises were ineffective in testing the totally integrated emergency organization and key elements of the emergency program and procedures. Exercises failed to test the organization's capability to perform accident analysis, emergency classification, and protective action recommendations to minimize exposure to personnel. In addition, a recent drill testing the interface between the onsite and offsite fire brigade to ensure a smooth coordinated response to an event had not been conducted. The critiques conducted following the drills were effective in the identification of areas requiring corrective actions.

(3) Conclusions

The exercise and drill program remains ineffective in testing the totally integrated emergency organization and key components of the response program (emergency classification, exposure control, interface with offsite support groups, and internal communications). Critiques were effective in identification of areas requiring corrective actions.

e. Emergency Equipment and Facilities (F3.06)

(1) Inspection Scope

The Emergency Operations Facility (EOF) and equipment were inspected to determine whether the facility, emergency response equipment, instrumentation, and supplies were maintained in a state of operational readiness.

(2) Observations and Findings

The inspector verified that fire brigade personal protective equipment was being periodically surveillance and properly maintained. No problems were noted.

(3) Conclusions

Based on the facility tour and surveillance documentation, the inspector concluded that the personal protective equipment was maintained in a state of readiness.

4. **Exit Interview**

The inspection scope and results were summarized and discussed in detail on October 25, 2001, with those persons indicated in the Attachment. Although proprietary documents and processes were occasionally reviewed during this inspection, the proprietary nature of these documents or processes has been deleted from this report. Dissenting comments were not received from the licensee.

ATTACHMENT

LIST OF PERSONS CONTACTED

Licensee

- *T. Allsep, Manager, SERF 3 and 4 Facilities
- *T. Blanks, Radiation Protection Specialist
- #*R. Freeman, Manager, Environmental, Health, Safety and Licensing
- G. Lindsey, Health Physicist
- *S. Newsom, Supervisor, Radiation Protection
- T. Osborne, Fuel Technician
- C. Owen, Dosimetry
- *L. Tupper, Manager, Licensing and Compliance
- *S. Wilkerson, Manager, Site Operations

INSPECTION PROCEDURES USED

- IP 83822 Radiation Protection
- IP 88050 Emergency Preparedness

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

<u>Item</u>	<u>Status</u>	<u>Description</u>
70-1201/2001-05-01	Open	IFI - Verify the adequacy of the licensee's corrective actions to resolve software problems and the inconsistencies between the database information and Procedure QC - 1440 training requirements (Paragraph 3.b).

LIST OF ACRONYMS USED

ALARA	As Low as is Reasonably Achievable
CBTS	Computer Based Training System
CEDE	Committed Effective Dose Equivalent
CFR	Code of Federal Regulations
CY	Calendar Year
DDE	Deep Dose Equivalent
EO	Emergency Officer
IFI	Inspector Followup Item
NRC	Nuclear Regulatory Commission
SDE	Skin Dose Equivalent
SLDR	Safety and Licensing Deficiency Report
SRB	Safety Review Board
SERF	Service Equipment Refurbishment Facility
TEDE	Total Effective Dose Equivalent
TRD	Training Requirements Document