UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

January 4, 2001

Mr. Robert Freeman, Manager
Regulatory Affairs
Framatome ANP, Inc.
Lynchburg Manufacturing Facility
P.O. Box 11646
Lynchburg, VA 24506-1646

SUBJECT: FRAMATOME ANP AMENDMENT 44 - LICENSE EXTENSION (TAC NO. L31366)

Dear Mr. Freeman:

In accordance with your application dated June 22, 2000, and pursuant to Part 70 to Title 10 of the Code of Federal Regulations, Materials License SNM-1168 is hereby amended to extend the license expiration date from September 30, 2000, to March 30, 2002. Accordingly, License Condition 4 has been modified to reflect an expiration date of March 30, 2002.

All other conditions of this license shall remain the same.

Enclosed are copies of amended Materials License SNM-1227 and the Safety Evaluation Report.

If you have any questions regarding this matter, please contact Julie Olivier of my staff at (301) 415-7292 or by e-mail at jao@nrc.gov.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter 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).

Sincerely,

Philip Ting, Chief
Fuel Cycle Licensing Branch
Division of Fuel Cycle Safety and Safeguards
Office of Nuclear Material Safety and Safeguards

Docket 70-1201
License SNM-1168
Amendment 44

Enclosures: 1. Materials License SNM-1168
2. Safety Evaluation Report

NRC FORM 374

U.S. NUCLEAR REGULATORY COMMISSION

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. Framatome ANP, Inc. Lynchburg, Virginia Facility	3. License Number SNM-1168, Amendment 44
2. P.O. Box 11646 Lynchburg, Virginia 24506-1646	4. Expiration Date March 30, 2002
	5. Docket No. 70-1201 Reference No.

6. Byproduct Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum amount that Licensee May Possess at Any One Time Under This License
A. Uranium enriched (and enriched processed uranium containing plutonium and other transuranic isotopes) up to 5.1 w/o U-235	A. Uranium oxide pellet	A. 15,000 kilograms of U-235
B. Uranium, natural or depleted	B. Oxide, pellet or powder	B. 100,000 kilograms of uranium
C. Uranium, natural kilograms with no single container to exceed 50 kilograms	C. UF_6	C. Less than 1,000
D. Byproduct material	D. Sealed sources	D. 10 curies with atomic numbers 3 to 83, inclusive
E. Plutonium	E. Sealed sources	E. 6 grams plutonium
F. Californium-252	F. Sealed sources	F. 3 milligrams of Californium-252
G. Uranium enriched in U-235	G. Any	G. 350 grams of U-235

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number
SNM-1168

Docket or Reference Number
70-1201

Amendment No. 44

H. Americium-241	H. Sealed sources	H. 5 curies Americium-241
I. Byproduct material and Plutonium	I. Contamination on/ within equipment, tooling, and components and waste	I. 1,000 curies, total
J. Any licensed material between atomic numbers 1-96	J. Quality control samples	J. 1 μCi total

9. Authorized place of use: The licensee's existing facilities at Lynchburg, Virginia. Material identified in Condition 6.I., 7.I., and 8.I., may be used at temporary job sites throughout the United States where the U.S. Nuclear Regulatory Commission retains jurisdiction for regulating the use of licensed materials.

10. This license shall be deemed to contain two sections: Safety Conditions and Safeguards Conditions. These sections are part of the license, and the licensee is subject to compliance with all listed conditions in each section.

FOR THE NUCLEAR REGULATORY COMMISSION

Date: _____

By: Philip Ting, Chief
Fuel Cycle Licensing Branch
Division of Fuel Cycle Safety
and Safeguards, NMSS
Washington, DC 20555

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number
SNM-1168

Docket or Reference Number
70-1201

Amendment No. 44

SAFETY CONDITIONS

S-1. Authorized use: For use in accordance with statements, representations, and conditions of Part I of the licensee's application dated June 9, 1997; and supplements dated November 24, 1997, and June 25, 1998; and letter dated August 14, September 14, letter dated October 5, 1998, November 5, November 12, 1999, and May 18, June 21, June 22, September 22, and November 13, 2000.

S-2. The licensee shall inform the Regional Administrator, Region II, within 30 days if the State-permitting agency revokes the State-issued NPDES permit for the discharge of liquid effluents and shall inform the Regional Administrator, Region II, on a semiannual basis if the State-permitting agency supersedes, conditions, modifies, or otherwise nullifies the effectiveness of the State-issued NPDES permit for the discharge of liquid effluents.

S-3. The licensee is hereby granted the exemptions and special authorizations in Sections 1.7.1 through 1.7.4, Chapter 1, of the application.

S-4. Deleted by Amendment 36, dated September 1999.

S-5. Deleted - Condition complied with - Emergency Plan submitted and approved by Amendment 15 dated November 17, 1993. Emergency Plan no longer required - approved by Amendment 17 dated April 6, 1994.

S-6. Deleted - New Manager of Fuel Manufacturing meets training requirements - approved by Amendment 34.

S-7. The licensee's Decommissioning Funding Plan and the financial surety arrangements, to assure that funds will be available for decommissioning, submitted by application dated March 27, 1992, and supplements dated August 23 and October 15, 1993; and May 10 and November 30, 1994, October 12, 1995, August 8, 1996, and June 17, 1997, are hereby incorporated as a condition of the license.

S-8. By August 15, 1995, the licensee shall perform an inventory of its byproduct material to determine the quantity currently possessed. The amount of byproduct material contained in field service equipment, accepted for storage or repair, shall be estimated and added to the inventory within 1 week of its receipt.

S-9. The licensee may receive, rod load, download, store, and ship enriched processed uranium containing plutonium and other transuranic isotopes, provided that the concentration of transuranic isotopes in such uranium shall be limited to 50 Bq per gram of uranium and the minimum enrichment is 2.5 percent, U-235. Framatome ANP, Inc. shall obtain shipper certification that the uranium containing plutonium and other transuranic isotopes is limited to 50 Bq per gram of uranium.

S-10. Notwithstanding the requirements of License Condition S-4, the licensee may delay until November 30, 1996, the submittal of its revised Demonstration Section.

SAFEGUARDS CONDITIONS

Section 1.0 - Material Control & Accounting

SG-1.1 The licensee shall follow Chapters 1.0 through 9.0 of its Fundamental Nuclear Material Control Plan with all pages designated as Revision 14 and dated June 23, 2000. This Plan may be further revised in accordance with, and pursuant to, the provisions of either 10 CFR 70.32(c) or 70.34.

SG-1.2 Notwithstanding the requirement of 10 CFR 74.31(c)(8) to independently assess the effectiveness of the total MC&A system at least every 24 months, the licensee may assess the effectiveness of its contractor laboratory at intervals not to exceed 36 months. All other elements and aspects of the licensee's MC&A program, however, remain subject to 10 CFR 74.31(c)(8).

SG-1.3 Deleted by Amendment 38, dated January 2000.

Section 2.0 - Physical Protection For SNM of Low Strategic Significance

SG-2.1 The licensee shall follow the Security Plan dated May 16, 1980, as revised May 20, 1983, February 5, 1986, August 28, 1992, and May 18, 2000 and as revised in accordance with the provisions of 10 CFR 70.32(e).

Section 3.0 - International Safeguards

SG-3.1 The licensee shall follow Codes 1 through 6 of the Transitional Facility Attachment No. 6A dated December 4, 1995, to the US/IAEA Safeguards Agreement.

DOCKET: 70-1201

LICENSEE: Framatome ANP, Inc.
Lynchburg, VA

SUBJECT: SAFETY EVALUATION REPORT: APPLICATION DATED JUNE 22, 2000, LICENSE EXTENSION

BACKGROUND

On June 22, 2000, Framatome applied for a license amendment to extend the license termination date by 18 months from the present date of September 30, 2000 to March 30, 2002.

Framatome requested an extension to the license because of uncertainty in the business due to a pending joint venture with Siemens Power Corporation. Due to the various facilities involved and the current state of the joint venture, the long term outlook for the Lynchburg facility is uncertain. A 18 month license extension will allow the company to better decide on the future of the facility.

DISCUSSION

The Framatome license was last renewed on September 24, 1990. A supporting Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) was provided to Framatome by letter dated May 17, 1990. Since the renewal in 1990, 42 amendments to Framatome's license have been approved.

No changes to current licensed operations are proposed. All existing license requirements and controls, and all safety and safeguards programs, would continue unchanged. The license extension will have no effect on current decommissioning funding arrangements.

The staff reviewed the docketed information (i.e., pre-application meeting notes (10/19/1999), submittal (6/22/2000), Environmental Assessment (5/14/1990)/Renewal (9/24/1990) through Amendment #42 (11/2/2000)). The following sections contain information pertinent to the reviews in specific technical areas.

RADIATION SAFETY

The NRC staff reviewed the Framatome request for extension of the license against the current requirements of 10 CFR 20. Framatome's radiation protection program is established to protect workers and the public from potential radiation hazards arising from licensed activities and to meet the requirements of 10 CFR 20. Framatome management has also made a commitment to maintain the exposure of employees and the general public as low as reasonably achievable (ALARA).

The Health-Safety section is responsible for administering the ALARA and radiation protection program and is administratively independent of production responsibilities. Designated responsibilities include:

- Maintaining appropriate control of hazardous material, shipments and receipts.
- Supervising and coordinating the waste disposal program.
- Assisting in personnel and equipment decontamination.
- Distribution and processing of personnel monitoring equipment.
- Maintaining individual exposure records.
- Furnishing consulting services and advice on radiation protection to plant supervision and management.
- Developing and disseminating procedures related to radiation safety.

Routine work performed in radiation controlled areas is conducted in accordance with standard procedures. Non-routine work requires a radiation work permit (RWP). RWP's are issued for specific periods of time and contain information such as the individuals to whom the permit is issued, the nature and extent of the work, the required protective equipment, etc. On a routine basis, the Health-Safety section staff monitors the work performed under the RWP.

The staff reviewed the administrative requirements of Framatome's radiation protection program, which includes radiation protection responsibilities, ALARA commitments, procedures, and the RWP system. The staff finds Framatome's administrative requirements consistent with NRC requirements and with good industry practice and, therefore, acceptable.

Systems of Exposure Controls and Exposure Levels

External Exposure

Engineering controls, procedures, and periodic radiation surveys are used to minimize external exposures of Framatome personnel. External exposures of Framatome personnel are controlled and evaluated using personnel dosimeters which are processed at least quarterly by a National Voluntary Laboratory Accreditation Program accredited vendor.

Internal Exposure

Various systems and methods are used at Framatome to protect operating personnel from ingesting or inhaling radioactive material and to monitor and assess for internal radioactive material. These include the ventilation system, the respiratory protection program, the bioassay program, control of surface contamination, and work-area air sampling.

Ventilation System

The ventilation system is designed and operated to limit the spread of airborne contamination by maintaining air pressure gradients and air flows from areas of low potential airborne contamination to areas of higher potential contamination. This is verified at regular intervals or after significant changes to the system by measurements of airborne radioactivity.

Respiratory Protection Program

Respiratory protection is used when engineering control measures are not feasible or during non-routine operations such as maintenance activities. When practical, engineering control measures such as enclosures and local ventilation are provided to minimize the need for respirator use. Respiratory protection is used in accordance with 10 CFR Part 20, Subpart H. Individuals who use respiratory protection equipment are provided respiratory protection training, and irritant smoke testing is used to assure an adequate mask fit.

Bioassay Program

The bioassay program is used to verify the adequacy of the air sampling program to evaluate contamination control in work areas, and to assess the workers' internal exposures. Bioassay is used when air sampling, personnel contamination, or other information indicates a significant potential internal exposure may have occurred.

Control of Surface Contamination

For the purpose of contamination control, Framatome has identified controlled and non-controlled areas and transition areas between the controlled and non-controlled areas. In the controlled areas protective clothing must be worn. The amount and type of protective clothing required is specified by The Health-Safety section and is determined by operational experience and the contamination potential.

Work-Area Air Sampling

At Framatome air sampling systems are used to measure airborne concentrations at work stations and in work areas. Stationary air samplers, high volume portable units, low volume portable units, and personal air sampling units are used to monitor airborne concentration levels.

The staff reviewed Framatome's systems for exposure controls, which included external and internal radiation exposures, the ventilation system, the respiratory protection program, the bioassay program, the control of surface contamination, and the work-area air sampling program. The staff finds that the systems of exposure controls for workers are adequate to ensure compliance with NRC requirements and consistent with good industry practice and, therefore, acceptable.

Instrumentation and Calibrations

In Chapter 3, Paragraph 3.2.4 of Framatome's current license, Framatome provides commitments for maintaining a wide range of instrumentation to adequately detect, monitor, and measure radioactivity Calibration of these instruments is done before initial use, after major maintenance, and on a routine basis at least six months following the last calibration. For laboratory counting instruments, the background and efficiency of the instrument are determined daily when the instrument is in use.

The staff reviewed Framatome's instrumentation and calibration program and concludes that it is consistent with NRC requirements and good industry practices and is, therefore, acceptable.

Conclusion

Based on a review of Framatome's current license and compliance history, the staff has concluded that Framatome has an adequate Radiation Safety Program to protect the health and safety of its workers. Conformance by Framatome to its license application should ensure a safe operation and the quick detection of unfavorable trends so that adequate corrective action can be implemented to ensure radiation protection of workers in accordance with NRC requirements.

FIRE SAFETY REVIEW

The NRC staff reviewed the Framatome request for extension of the license. The licensee has committed, in Section 6.2 of the current license, to provide a fire protection program that would minimize the occurrence, the potential severity, and consequences of a fire. The fire protection program assures the required level of safety through the following commitments and resulting safety performances:

- Provide administrative controls on the accumulation of transient combustibles and the use and storage of flammable and combustible material to minimize potential fire severity and fire involvement of the building structural and nuclear process equipment and provide administrative controls of ignition sources to minimize the occurrence of a fire.

- Provide and maintain engineered safety features for detection and notification in the event of a fire and automatic fire suppression to limit fire severity and limit spread of a fire from locations of high fire hazards.

- Provide and maintain onsite emergency response capability and equipment (including an adequate water supply) and offsite fire department assistance to respond timely and effectively to extinguish and mitigate possible consequences of a fire.

The implementation of these fire protection measures ensures the defense-in-depth protection and safety performance necessary to minimize the likelihood of major fire at the plant. As a result, it minimizes the potential of a fire that could impact or involve licensed material or cause the loss of safety controls that could lead to an accident of a different type.

The staff also reviewed the licensee's accident analysis (License Chapter 16). The accident analysis concluded that the potential for a radiological offsite release due to a fire would be

insignificant because of the primary operations currently at the plant only involve licensed material in a pellet form (i.e., UO_2 pellets). The accident analysis indicated that Framatome no longer uses or stores UO_2 powder in the quantity authorized by the license. The staff concluded that this accident analysis conclusion appeared valid because the material at risk (UO_2 pellets) would not be significantly affected by a fire and they would not contribute significantly as source term for possible off-site radiological consequences. However, if future operations would involve licensed material other than UO_2 pellets, the current accident analysis conclusion would not be valid and the possible increase in off-site consequences may require additional engineered fire protection features to address the increase in risk or possible off-site consequences. Under such changes, the licensee's revision of the accident analysis, fire protection of operational changes, and the technical basis that justified the exception to the requirement for maintaining an Emergency Plan would need to be review by the NRC staff.

The staff concluded a reasonable assurance would be provided through current license commitments in fire protection to provide an adequate level of safety for operations.

NUCLEAR CRITICALITY SAFETY

The staff determined that the Nuclear Criticality Safety (NCS) program at this low-risk facility is acceptable and that no NCS license conditions are necessary at this time. Therefore, there is no objection from an NCS perspective to the licensee being granted an 18-month extension to March 30, 2002, in order to prepare a renewal application that would, as discussed in the meeting notes and submittal letter, provide a better explanation of the licensee's NCS basis and incorporate the required elements of the revised Commission-approved 10 CFR Part 70. The staff concludes that there is reasonable assurance that the license extension will not pose an undue risk to public health and safety or the environment.

ENVIRONMENTAL REVIEW

Since the renewal in 1990, 42 amendments to Framatome's license have been processed. All of these amendments were procedural or administrative in nature, involved excluded safeguards information, or were otherwise insignificant, and did not require any supporting environmental review. The staff reviewed the environmental impacts of extending the Framatome license for 18 months to determine if the categorical exclusion from further environmental review provided for in §51.22(c)(11) is appropriate. This categorical exclusion depends on whether or not there is a change in plant operations resulting in a significant increase in plant effluents, occupational exposure, construction impact, or potential for or consequences from radiological accidents. These criteria are assessed below:

Plant Effluents

The effect of extending the Framatome license will be to allow the plant to continue operations an additional 18 months. There will be no change to the types of effluents released.

The 1990 EA estimated the maximum individual committed effective dose equivalent from operations to be 0.058 mrem/yr. Collective doses to the population within 50 miles were estimated to be 0.077 person-rem/yr. These doses are very small fractions of applicable regulatory limits, and negligible fractions of doses from natural background radiation.

In the last 18 months (August 1999 through December 2000), gaseous releases of uranium have ranged from 0 to 2 µCi/yr, with an average of about 1 µCi/yr, well below the allowable regulatory limit of 10 µCi per calender quarter.

The data demonstrate average release rates over the last 18 months have been significantly lower than allowable limits. Since the previously calculated individual and collective exposure estimates were very small and insignificant, and average releases over the last 18 months have been lower than previous estimates and would result in even lower individual and collective exposure estimates, the staff concludes that extension of the license for an additional 18 months will not produce a significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

Occupational Radiation Exposure

The current rates of occupational exposure are consistent with past experience at Framatome and are less than those incurred at other similar fuel cycle facilities. Therefore, the staff concludes that extension of the Framatome license for an additional 18 months will not produce a significant increase in individual or cumulative radiation exposure.

Construction Impact

Extension of the license for an additional 18 months does not authorize additional construction and imposes no construction impact.

Radiological Accidents

Extension of the license for an additional 18 months has no effect on the consequences of potential accidents, since there would be no change in plant operations. There would be an increase in the potential for an accident to occur associated with the additional 18 months of operation. The 1990 EA reviewed the potential consequences of a variety of accidents and determined that potential radiological consequences were small with negligible associated health effects. The 1990 EA concluded that given the low likelihood of occurrence, potential accidents would not have a significant impact. Therefore, the staff concludes here, that extension of the license for 18 months does not produce a significant increase in the total risk of operating the plant.

Categorical Exclusion

As discussed above, the staff concludes that extension of the Framatome license for an additional 18 months meets the criteria for the categorical exclusion from the requirement for environmental review provided in 10 CFR 51.22(c)(11) in that:

1. There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite;

2. There is no significant increase in individual or cumulative occupational radiation exposure;

3. There is no significant construction impact; and

4. There is no significant increase in the potential for or consequences from radiological accidents.

Therefore, the staff has determined that an additional environmental assessment is not required or warranted for this amendment.

CONCLUSION

Based on the discussion herein, the staff concludes that the licensee's proposed license extension will have no significant impact on public health and safety, or the environment, and is in accordance with NRC regulatory requirements.

Approval of the amendment application for the license extension is recommended.

The Region II inspection staff has no objection to this proposed action.

PRINCIPAL CONTRIBUTORS:
Julie Olivier
Harry Felsher
Peter Lee
Michael Lamastra