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

MAINE YANKEE ATOMIC POWER COMPANY

DOCKET NO. 50-309

MAINE YANKEE ATOMIC POWER STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 63
License No. DPR-36

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Maine Yankee Atomic Power Company, (the licensee) dated March 26, 1975, as revised January 27, 1977, March 19, 1980, and February 13, 1981, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D, The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public: and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

DESIGNATED ORIGINAL

Certified By Patricia J. Noonan

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.B(6)(b) of Facility Operating License No. DPR-36 is hereby amended to read as follows:

(b) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 63 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 7, 1982

ATTACHMENT TO LICENSE AMENDMENT NO. 63

TO FACILITY OPERATING LICENSE NO. DPR-36

DOCKET NO. 50-309

Revise Appendix A as follows:

Remove Page	Insert Page
Table of Contents 1 and 2	Table of Contents 1 and 2
3.13-2	3.13-2
3.13-3	3.13-3
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TECHNICAL SPECIFICATIONS

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TECHNICAL SPECIFICATIONS

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6. During reactor vessel head removal and while refueling operations are being performed in the reactor, the refueling boron concentration shall be maintained in the reactor coolant system and shall be checked by sampling on each shift to insure that the boron concentration is such to maintain the core 5%Δ K/K subcritical.

7. Direct communication between personnel in the control room and at the refueling station shall be operable whenever changes in core geometry are taking place.

B. If any of the conditions in Specification A are not met, all refueling operations shall cease immediately; work shall be initiated to satisfy the required conditions, and no operations that may increase the reactivity of the core shall be made.

C. Prior to initial core loading and prior to each refueling a complete check out, including a lead test, shall be conducted on fuel handling cranes that will be used to handle spent fuel assemblies.

D. A minimum of 23 feet of water above the top of the core shall be maintained whenever spent fuel is being handled.

E. Irradiated fuel shall not be handled for 72 hours after reactor shutdown.

F. Spent fuel storage racks may be moved only in accordance with written procedures which ensure that no rack modules are moved over fuel assemblies.

Basis:

The equipment and general procedures to be utilized during refueling are discussed in the FSAR. Detailed instructions, the above specificatons and the design of the fuel handling equipment incorporating built-in interlocks and safeguards systems provide assurance that no incident could occur during the refueling operations that would result in a hazard to public health and safety. (1) Whenever changes are not being made in core geometry, one flux monitor is sufficient. This permits maintenance of the instrumentation. Continuous monitoring of radiation levels and neutron flux provides immediate indication of an unsafe condition. The residual heat removal flow is used to remove core decay heat and maintain a uniform boron concentration.

A single cooling mechanism is sufficient to remove decay heat but single failure considerations require that two mechanisms be OPERABLE.

The shutdown margin as indicated will keep the core substantially subcritical, even if the highest worth CEAs were inadvertently withdrawn from the core without compensating boron addition.

Periodic checks of refueling water boron concentration insure the proper shutdown margin. Communication requirements allow the control room operator to inform the refueling station operator of any impending visual condition detected from the main control board indicators during fuel movement.

In addition to the above engineered safeguards systems, interlocks are utilized during refueling to insure safe handling. An excess weight interlock is provided to prevent excess loading of a fuel assembly should it inadvertently become stuck.

In the analysis of the refueling accident conducted by the Staff, 23 feet of water and 72 hours of decay time were used to limit exposures to 10% of 10 CFR 100. Valve alignment check sheets are completed to protect against sources of unborated water or draining of the system.

Procedures are required for movement of spent fuel racks to avoid unnecessary risk of spent fuel damage caused by dropping spent fuel racks.

References: (1) FSAR, Section 14.16.

3.25 INSTALLED VENTILATION AND FILTER SYSTEMS

Applicability: Applies to the operating status of the plant installed ventilation and filter systems.

Objective: To define the operating status of the installed ventilation and filter systems required for plant operation.

Specification:

A. The containment hydrogen purge system shall be operable whenever the reactor is critical. With the containment hydrogen purge system inoperable, isolate the system and restore the hydrogen system to operable status within 30 days or be in Hot Shutdown within the next 12 hours.

B. One train of control room ventilation shall be operable whenever reactor coolant system temperature and pressure exceed 210°F and 400 psig. Two trains of control room ventilation shall be operable whenever the reactor is critical. With one control room ventilation system inoperable, restore the system to operable status within 14 days or be in Hot Standby.

C. Spent Fuel Pool Ventilation Requirements

1. When irradiated fuel which has decayed less than 60 days is in the spent fuel pool, the spent fuel ventilation system shall be operating and discharging through an HEPA and charcoal adsorber filter train during either:

   a. Fuel movement within the spent fuel pool, or

   b. Crane operation with loads over the spent fuel pool.

2. With C.1 above not satisfied, suspend all operations involving movement of fuel within the spent fuel pool or crane operation with loads over the spent fuel pool.

Basis: The operability of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions.

Each control room ventilation system consists of one recirculation system at 3300 cfm and one breathing air supply system at 40 cfm. The operability of the control room ventilation system ensures that the control room will remain habitable for operations personnel during and following all credible accident conditions. The operability of this system in conjunction with

Basis: (continued)

control room design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 rem or less whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criteria 19 of Appendix "A", 10 CFR 50.

The limitations on the storage pool ventilation system ensure that all radioactive material released from an irradiated fuel assembly will be filtered through the HEPA filters and charcoal adsorber prior to discharge to the atmosphere. The operability of this system and the resulting iodine removal capacity are consistent with the assumptions of the accident analyses.

Table 4.2-2

Minimum Frequencies for Equipment Tests

		Test	Frequency
1.	Control Element Assemblies (CEAs)	Drop Times of all full-lenth CEAs	Each refueling interval
2.	Control Element Assemblies	Partial Movement of all CEAs (minimum of 6")	Every two weeks when the reactor is critical
3.	Pressurizer Safety Valves	Set Point	One valve each refueling interval
4.	Main Steam Safety Valves	Set Point	2 valves per steam generator, each refueling interval
5.	Refueling System Interlocks	Functioning	Prior to refueling operations
6.	Primary System Leakage	Evaluate	Daily **
7.	Diesel Fuel Supply	Fuel Inventory	Weekly
8.	Deleted		
9.	Turbine stop governor, Reheater and Intercept Valves	Functioning	Monthly when the turbine is operating
10.	L.P. Turbine Rotor Inspection	Visual, Magnetic Particle or Liquid Penetrant	One Rotor each 4 years
11.	Post-accident containment vent system		
	a) Hydrogen detector	Calibrate	Upon installing and within one month of startup from each refueling shutdown

4.11 VENTILATION FILTER SYSTEM SURVEILLANCE TESTING

Applicability: Applies to the containment hydrogen purge system, the control room ventilation system, and the spent fuel pool ventilation system.

Objective: To specify the surveillance requirements necessary to demonstrate the operability of the above ventilation and filter systems.

Specification:

A. Containment Hydrogen Purge System

1. The hydrogen purge system shall be demonstrated operable at least once per month by initiating system flow through the HEPA filter and charcoal adsorber train for at least 15 minutes and verifying that the purge system operates by observing flow indication on the system flowmeter.

   Note: The above evolution requires a deviation from containment integrity. To compensate for this, an operator will be in close proximity to the isolation valve during this testing.

B. Control Room Ventilation System

1. Each train of the control room ventilation system shall be demonstrated operable at least once per month by initiating flow through the HEPA filter and charcoal adsorber train for at least 15 minutes verifying train operability.

2. At least each refueling interval and following painting, fire or chemical release in any ventilation zone communicating with the system, while the system is operating, that could contaminate and impair the function of the HEPA filters or charcoal adsorbers, the filter system shall be demonstrated operable by verifying that:

   a. The results of the in-place cold DOP and halogenated hydrocarbon tests at design flows on HEPA and charcoal filter banks shall show ≥ 99% DOP removal and ≥ 99% halogenated hydrocarbon removal.

   b. Within 31 days after removal that the results of laboratory carbon sample analysis shall show ≥ 95% radioactive methyl iodide removal. (250C, 70% R.H.)

      Note: Should the laboratory results not be available within 31 days after removal, written notification to the Commission shall be provided within 7 days.

   c. Recirculation filter system flow rate is ≥ 3300 cfm during system operation.

d. Breathing air supply system flow rate is ≥ 40 cfm during system operation.

e. The pressure drop across the combined pre-filter and HE filter bank is ≤ 4" H_2O while operating at the system flows specified above.

3. Following maintenance or replacement activities, only those components which may have been adversely affected by the activity need be tested. Specifically:

a. Cold DOP testing shall be performed after each complete or partial replacement of the HEPA filter bank.

b. Halogenated hydrocarbon testing shall be performed after each complete or partial replacement of the charcoal filter bank.

c. DOP and halogenated hydrocarbon test shall be performed following any significant modification to the filter housing that could have an adverse effect on the filter efficiency.

d. An air distribution test demonstrating uniformity within ±20% across the HEPA filters and charcoal adsorbers shall be performed if the filter housing is modified such that air distribution could be adversely affected.

4. The sample analysis of Specification 4.11.8.2.b shall be performed after every 720 hrs. of system operation.

C. Spent Fuel Pool Ventilation System

1. When irradiated fuel which has decayed less than 60 days is in the spent fuel pool, the spent fuel pool ventilation system shall be verified to be operating within 2 hours prior to the initiation of and at least once per shift during either fuel movement within the spent fuel pool or crane operation with loads over the spent fuel pool.

Note: Operating shall be defined as: At least one purge fan operating, and system aligned to provide flow through the filter train from the spent fuel building.

2. At least each refueling interval and following painting, fire or chemical release in any ventilation zone communicating with the system, while the system is operating, that could contaminate and impair the function of the HEPA filters or charcoal adsorbers, the filter system shall be demonstrated operable by verifying that:

a. The results of the in-place cold DOP and halogenated hydrocarbon tests at design flows on HEPA and charcoal filter banks shall show ≥ 99% DOP removal and ≥ 99% halogenated hydrocarbon removal.

b. Within 31 days after removal that the results of laboratory carbon sample analysis show ≥ 99% radioactive methyl iodine removal. (250C, 70% R.H.)

Note: Should the laboratory results not be available within 31 days after removal, written notification to the Commission shall be provided within 7 days.

c. The exhaust flow rate from the Spent Fuel Building is ≥ 9600 cfm during system operation.

d. The pressure drop across the combined pre-filter and HEPA filter bank is ≤ 4" H_2O at 23,000 cfm.

NOTE: The exhaust flow from the Spent Fuel Building is routed through a deep bed filter which has a capacity of 23,000 cfm.

3. Following maintenance or replacement activities, only those components which may have been adversely affected by the activity need be tested. Specifically:

a. Cold DOP testing shall be performed after each complete or partial replacement of the HEPA filter bank.

b. Halogenated hydrocarbon testing shall be performed after each complete or partial replacement of the charcoal filter bank.

c. DOP and halogenated hydrocarbon test shall be performed following any significant modification to the filter housing that could have an adverse effect on the filter efficiency.

d. An air distribution test demonstrating uniformity within ±20% across the HEPA filters and charcoal adsorbers shall be performed if the filter housing is modified such that air distribution could be adversely affected.

4. The sample analysis of Specification 4.11.C.2.b shall be performed after every 1500 hrs. of system operation.

Basis:

To ensure that the H2 purge, control room and spent fuel pool filter systems will be effective in removing radioactive contaminates from their respective air streams, these systems will be tested periodically to meet the intent of ANSI N510-1975.

The hydrogen purge system discharges via the safety related fuel building deep bed charcoal filter bank, and as such surveillance testing of these filters is accomplished via section C.2 of this specification.

In specification 4.11.C.1 the reference to a 60-day decay period is appropriate because calculations have shown that after a 60-day decay the off-site doses from a fuel drop accident with no filtration are significantly less than those from the design basis accident with filtration.

In specification 4.11.C.2.b, the $\geq$99% radioactive methyl iodide removal requirement is necessary because 95% removal credit was taken for the H_2 purge contribution to the LOCA dose.

In specification 4.11.C.4, the increase in the testing interval from 720 hrs. to 1500 hrs. is appropriate because of the incorporation of both a 4-inch bed of activated impregnated charcoal bed and a 1" guard bed of activated charcoal.

Laboratory sample analyses of charcoal adsorbers from the control room or spent fuel pool building ventilation system shall be performed at flow rates which are representative of the system flow rates.