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. 87
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 January 14, 1985 as supplemented December 13, 1985, 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.

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. 87 , 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

/s/ A. Thadani

Ashok C. Thadani, Director
PWR Project Directorate #8
Division of PWR Licensing-B

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 4, 1986

ATTACHMENT TO LICENSE AMENDMENT NO. 87

FACILITY OPERATING LICENSE NO. DPR-36

DOCKET NO. 50-309

Revise Appendix A as follows:

Remove Pages	Insert Pages
4.1-9	4.1-9
	4.1-9a
4.6-1	4.6-1
4.6-3	4.6-3
4.6-4	4.6-4
4.6-5	4.6-5
4.6-6	4.6-6

Table 4.1-2 (Continued)

Channel Description	Surveillance Function	Frequency	Surveillance Method
15. High Pressure Safety Injection Pump Current	a. Check	M (3)(4)	a. Verify pump ammeter indication during pump test.
	b. Calibrate	R	b. Known Current applied to meter.
16. Low Pressure Safety Injection Pump Current	a. Check	M (3)(4)	a. Verify pump ammeter indication during pump test.
	b. Calibrate	R	b. Known current applied to meter.
17. Containment Spray Header Pressure	a. Check	M (3)(4)	a. Verify header pressure indication during pump test.
	b. Calibrate	R	b. Known pressure applied to sensors.
18. Containment Spray Pump Current	a. Check	M (3)(4)	a. Verify pump ammeter indication during pump test.
	b. Calibrate	R	b. Known current applied to meter.
19. Refueling Water Tank Level	a. Check	S (3)	a. Verify level indication.
	b. Calibrate	R	b. Known pressure applied to sensor.
20. Feedwater Trip System	a. Test	R	a. Simulate initiation signal and verify logic operation;
	b. Test	R	b. Simulate logic operation and verify valve closure and actuation of main and auxiliary feedwater pump trip controls.

Table 4.1-2 (Continued)

Channel Description	Surveillance Function	Frequency	Surveillance Method
21. Emergency Feedwater Initiation	a. Check	M (3)(4)	a. Verify bistable actuation setpoints.
	b. Test	R	b. Simulate initiation signal and verify logic operation.

(1) Not required unless the reactor is in the power operating condition.
(2) Not required during plant startup and shutdown periods.
(3) Not required when plant is in the cold shutdown condition.
(4) Must be performed within 30 days prior to attaining a power operating condition.

4.6 PERIODIC TESTING

SAFETY INJECTION AND CONTAINMENT SPRAY SYSTEMS
STEAM GENERATOR EMERGENCY FEED PUMPS
MAIN STEAM EXCESS FLOW CHECK VALVES
FEEDWATER TRIP SYSTEM

Applicability: Applies to the safety injection system, the containment spray system, chemical injection system, the containment cooling system, the emergency feedwater system, the main steam excess flow check valves, and the feedwater trip system.

Objective: To verify that the subject systems will respond promptly and perform their intended functions, if required.

Specification:

A. SAFETY INJECTION AND CONTAINMENT SPRAY SYSTEMS

1. The following tests will be performed monthly whenever plant conditions are as defined in Section 3.6.A of these Specifications.

   a. Emergency Core Cooling System (ECCS) Pumps:

      Both operable high pressure safety injection (HPSI) pumps shall be tested by operating in the charging mode.

      Both operable low pressure safety injection (LPSI) pumps and both operable containment spray (CS) pumps shall be tested by operating in the recirculation mode.

      Acceptable performance shall be that pumps attain rated heads, operate for at least 15 minutes, and that the associated instrumentation and controls function properly.

   b. ECCS Valves:

      All automatically operated valves that are required to operate to assure core flooding, or containment spray shall be exercised. The volume control tank (VCT) outlet to charging pump suction valves shall be exercised through part travel and all other valves shall be visually checked to verify proper operating position.

      Exception: LSI-M-11, 21 or 31 shall not be tested when the associated ECCS check valve barrier leakage falls into Condition 2 or 3, as defined in Specification 4.6.A.2.f.

2. The following tests will be performed at each refueling interval:

   a. ECCS Pumps:

      One HPSI pump shall be flow tested at 1000 psig discharge head.

Check valve barriers shall be determined to be intact through satisfaction of the following acceptance criteria.

Acceptance Criteria

Condition 1 - Barrier (a) less than 15 gpm and barrier (b), in the same loop, less than 5 gpm.

No additional action required.

Condition 2 - Barrier (a) less than 15 gpm and barrier (b), in the same loop, greater than 5 gpm.

The reactor may be made or remain critical for up to 30 days provided the affected ECCS line Motor Operated Valve remains closed.

Condition 3 - Barrier (a) greater than 15 gpm and barrier (b), in the same loop, less than 5 gpm.

The reactor may be made or remain critical for up to 30 days provided the affected ECCS line Motor Operated Valve remains closed.

Condition 4 - Barrier (a) greater than 15 gpm and barrier (b), in the same loop, greater than 5 gpm.

The reactor shall not be made or remain critical for more than 24 hours.

3. Containment Spray Headers:

The containment spray flow nozzles will be tested every five years. The test will consist of pressurizing the headers with air and verifying that the nozzles are free of obstruction.

4. Containment Isolation Valves:

Where practicable, each containment isolation valve shall be stroked to the position required to fulfill its safety vunction every three months. Those valves that cannot be tested without possible adverse effects during plant operation shall be tested during each cold shutdown if not tested during the previous three months.

B. EMERGENCY FEEDWATER PUMPS

Prior to plant startup following an extended cold shutdown, a flow test will be performed to verify the normal flow path from the demineralized water storage tank to the steam generators. The flow test will be conducted with the emergency feedwater system valves in their normal alignment.

The bistable actuation setpoints for the motor driven emergency feed pumps are checked monthly in accordance with #21 of Table 4.1-2 to verify that the setpoints have not drifted.

Prior to plant startup following an extended cold shutdown, a flow test is performed on the Auxiliary Feedwater System to functionally verify the system alignment from the demineralized water storage tank to the steam generators.

Monthly inspections are performed to verify that all manual valves in the Auxiliary Feedwater System from the primary water source to the steam generators are locked in the proper position.

Proper functioning of the steam turbine admission valve and starting of the auxiliary feed pump will demonstrate the operability of the steam driven pump. Verification of correct operation will be made both from instrumentation in the Main Control Room and direct visual observation of the pumps.

The main steam, excess flow check valves serve to limit an excessive reactor coolant system cooldown rate and resultant reactivity insertion following a main steam break incident. Their freedom to move will be verified periodically.

The feedwater trip system acts to limit excessive reactor coolant system cooldown and the resultant reactivity insertion produced by excessive feedwater flow to the steam generators in the event of a main steam line break. The system acts to trip feedwater pumps, condensate pumps, and heater drain pumps, and close the main feedwater regulating valve, feedwater regulating valve bypass valve, and emergency feedwater control and isolation valves to the affected steam generator. Signals activating the system are developed by instrumentation, logic, and relaying associated with the safety injection actuation system and the excess flow check valve actuation system. The circuitry which develops these signals is subject to surveillance requirements of Tables 4.1-1 and 4.1-2 which assure their reliability.

The main feedwater pumps, condensate pumps, and heater drain pumps trip upon coincidence of SIAS and a low steam generator pressure. The valves close on the low steam generator pressure in the associated steam generator. The reliability of the coincidence logic is assured by testing in accordance with #20 of Table 4.1-2.

When the reactor is in a power operation condition (Condition 7), monthly inspections shall be performed to verify that all manual valves in the emergency and auxiliary feedwater systems necessary to assure emergency and auxiliary feedwater flow from the primary water source to the steam generators are locked in the proper position.

When the reactor is in a power operation condition (Condition 7), each motor driven emergency feed pump and the turbine driven auxiliary feedwater pump and systems valves shall be tested at monthly intervals to demonstrate operability. Bistable actuation setpoints of the motor driven emergency feed pumps shall be tested monthly in accordance with Table 4.1-2, number 21a.

During each refueling shutdown, a verification test shall be conducted to assure that each motor driven emergency feed pump auto-start circuitry actuates upon receipt of an emergency feedwater actuation test signal in accordance with Table 4.1-2, number 21b.

C. MAIN STEAM EXCESS FLOW CHECK VALVES

The main steam excess flow check valves shall be tested once every 6 weeks for movement of the valve disc through a distance of approximately one and one-half inches. These valves will be tested through full travel distance during each refueling interval.

D. FEEDWATER TRIP SYSTEM

1. The following tests will be performed at each refueling interval:

   a. Main Feedwater Pumps

      Each main feedwater pump, condensate pump, and heater drain pump trip system shall be tested by tripping the actuation circuitry with a safety injection signal coincident with steam generator low pressure signal.

   b. Feedwater Valves

      Each main feedwater regulating valve, main feedwater regulating bypass valve, and auxiliary feedwater control and isolation valve trip system shall be tested by tripping the valves with a low pressure signal from their respective steam generators.

Basis:

The safety injection system and the containment spray system are principal plant safeguards systems that are normally operable during reactor operation.

Complete system tests cannot be performed when the reactor is operating because of their inter-relation with operating systems. The method of assuring operability of these systems is a combination of complete system tests performed during refueling shutdowns and monthly tests of active system components (pumps and valves) which can be performed during reactor operation. The test interval is based on the judgment that more frequent testing would not significantly increase the reliability (i.e., the probability that the component would operate when required), yet more frequent tests would result in increased wear over a long period of time.

The monthly part travel exercising of the VCT outlet to charging pump suction valves, in lieu of the full travel exercise, is conducted to preclude an interruption of normal plant operations. Redundant valves have been used to assure proper lineup in the event of ECCS actuation.

Other ECCS valves whose operation is not required to assure core flooding or containment spray shall be tested during each refueling shutdown period in accordance with 2.b.

The three check valves in the ECCS line to each loop provide assurance that a valve failure will not result in unrestricted flow of pressurized reactor coolant into lower pressure connecting piping outside the containment. The valve integrity testing required by Technical Specification 4.6.A.2.f assures that the rate of flow under a valve failure condition will not exceed the pressure relief capacity of the line. It further provides periodic assurance that the check valves are intact.

The two check valves closest to the loop are grouped together as a single check valve barrier for test purposes. The first valve provides a thermal barrier preventing thermal distortion from affecting the tightness of the second valve. The third valve alone constitutes a check valve barrier.

The check valves are hard seated swing checks designed to withstand the rigors of long term RHR operation without damage and the greatest assurance of integrity and dependability.

In addition to the check valves the ECCS line to each loop contains a Motor Operated Valve (MOV) which is closed except for periodic monthly testing. The MOV and reactor side piping is designed for full system pressure and is also capable of preventing an overpressure condition of connecting piping.

The leakage criteria provide an acceptable balance between the need to maintain a degree of tightness as a criterion of integrity on one hand and ALARA and power dependability considerations on the other giving due credit to the unique design feature of and prctection provided by the four valves in series.

Verification that the spray piping and nozzles are open will be made initially by a suitably sensitive method, and at least every five years thereafter. Since all piping material is all stainless steel, normally in a dry conditions, and with no plugging mechanism available, the retest every five years is considered to be more than adequate.

Other systems that are important to the emergency cooling function are the SI tanks, the component cooling system and the service water system. The SI tanks are a passive safety feature. In accordance with Specification 4.1 (Table 4.1-2, Item 11), the water volume and pressure in the SI tanks are checked periodically. The component cooling and service water systems operate when the reactor is in operation and are continuously monitored for satisfactory performance.

The monthly testing interval of the steam generator motor driven emergency feed pumps and the turbine driven auxiliary feedwater pump verifies their operability by recirculating water to the demineralized water tank.