1.16 INTERIM LIMITS

1.16.1 Fuel Residence Time Limit

The fuel resident time for Unit 3 shall be limited to 27,000 EFPH. The fuel residence time for Unit 4 shall be limited to 30,000 EFPH.

1.16.2 Reactor Coolant Pumps Operation

The reactor shall not be operated with less than three reactor coolant pumps in operation.

1.17 LOW POWER PHYSICS TESTS

Low power physics tests are tests below a nominal 5% of rated power which measure fundamental characteristics of the reactor core and related instrumentation.

1.18 COOLANT LOOP

Each of the following is defined as being a Coolant Loop:

1. Reactor Coolant Loop A and its associated reactor coolant pump and steam generator with secondary side level greater than or equal to 10%.
2. Reactor Coolant Loop B and its associated reactor coolant pump and steam generator with secondary side level greater than or equal to 10%.
3. Reactor Coolant Loop C and is associated reactor coolant pump and steam generator with secondary side level greater than or equal to 10%.
4. Residual Heat Removal Loop A and its associated residual heat removal pump and heat exchanger.
5. Residual Heat Removal Loop B and its associated residual heat removal pump and heat exchanger.

5. TWO residual heat removal pumps shall be operable.

6. TWO residual heat exchangers shall be operable.

7. All valves, interlocks and piping assoicated with the above components and required for post accident operation, shall be operable, except valves that are positioned and locked. Valves 864-A, B; 862-A,B; 865-A, B, C; 866-A, B shall have power removed from their motor operators by locking open the circuit breakers at the Motor Control Centers. The air supply to valve 758 shall be shut off to the valve operator.

b. During power operation, the requirements of 3.4.1a may be modified to allow one of the following components to be inoperable (including associated valves and piping) at any one time except for the cases stated in 3.4.1.b.2. If the system is not restored to meet the requirements of 3.4.1a within the time period specified, the reactor shall be placed in the hot shutdown condition. If the requirements of 3.4.1a are not satisfied within an additional 48 hours the reactor shall be placed in the cold shutdown condition.

1. ONE accumulator may be out of service for a period of up to 4 hours.

2. ONE of FOUR safety injection pumps may be out of service for 30 days. A second safety injection pump may be out of service, provided the pump is restored to operable status within 24 hours. TWO of the FOUR safety injection pumps shall be tested to demonstrate operability before initiating maintenance of the inoperable pumps.

3. ONE channel of heat tracing on the flow path may be out of service for 24 hours.

c. During power operation three Reactor Coolant Loops shall be in operation.

1. With less than three Reactor Coolant Loops in operation the reactor must be in Hot Shutdown within one hour.

d. In Hot Shutdown at least two Reactor Coolant Loops shall be operable and at least one Reactor Coolant Loop shall be in operation.*

1. With less than two Reactor Coolant Loops operable, restore the required Coolant Loops to operable status within 72 hours or reduce T_{avg} to less than or equal to 350 F within the next 12 hours.

2. With no Reactor Coolant Loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required Coolant Loop to operation.

e. With average coolant temperature less than 350 F, at least two Coolant Loops shall be operable or immediate corrective action must be taken to return two Coolant Loops to operable as soon as possible. One of these Coolant Loops shall be in Operation.*

1. With no Coolant Loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required Coolant Loop to operation.

* All reactor coolant pumps and residual heat removal pumps may be de-energized for up to 1 hour provided 1) no operations are permitted that would cause dilution of the reactor coolant system boron concentration, and 2) core outlet temperature is maintained at last 10 F below saturation temperature.

f. In Refueling Shutdown, at least one residual heat removal Coolant Loop shall be in operation or all operations involving an increase in the reactor decay heat load or a reduction in boron concentration in the Reactor Coolant System must be suspended, and all containment penetrations providing direct access from the containment atmosphere to the outside atmosphere must be closed in four hours. As an exception, the single residual heat removal Coolant Loop may be removed from operation during the performance of core alterations in the vicinity of the reactor pressure vessel hot legs, provided core outlet temperature is maintained below 160 F.

g. In Refueling Shutdown, when the water level above the top of the pressure vessel flange is less than 23 feet, two residual heat removal Coolant Loops shall be operable or action to return two residual heat removal Coolant Loops to operable shall be taken as soon as possible.

2. EMERGENCY CONTAINMENT COOLING SYSTEMS

a. The reactor shall not be made critical, except for low power physics tests. unless the following conditions are met:

1. Three emergency containment cooling units are operable.

2. Two containment spray pumps are operable.

3. All valves and piping associated with the above components, and required for post accident operation, are operable.

b. During power operation, the requirements of 3.4.2a may be modified to allow one of the following components to be inoperable (including associated valves and piping) at any one time. If the system is not restored to meet the requirements of 3.4.2a within the time period specified, the reactor shall be placed in the hot shutdown condition. If the requirements of 3.4.2a are not satisified within an additional 48 hours the reactor shall be placed in the cold shutdown condition.

TABLE 4.1-2 (SHEET 2 OF 3)

MINIMUM FREQUENCIES FOR EQUIPMENT AND SAMPLING TESTS

11.	Reactor Coolant System Leakage	Evaluate	Daily	NA
12.	Disel Fuel Supply	Fuel inventory	Weekly	10
13.	Spent Fuel Pit	Boron Concentration	Prior to refueling	NA
14.	Secondary Coolant	I-131 Concentration	Weekly*	10
15.	Vent Gas & Particulates	I-131 & Particulate Activity	Weekly	10
16.	Fire Protection Pump & Power Supply	Operable	Weekly	45
17.	Turbine Stop and Control Valves, Reheater Stop and Intercept Valves	Closure	Monthly***	45
18.	LP Turbine Rotor Inspector (w/o rotor disassembly)	V, MT, PT	Every 5 Years	6 Years
19.	Spent Fuel	Functioning	Within 7 days	7 days when crane is being used to measure spent fuel cask

TABLE 4.1-2 (SHEETS 3 OF 3)
MINIMUM FREQUENCIES FOR EQUIPMENT AND SAMPLING TESTS

20.	Coolant Loops	During power operation, verify three (3) reactor Coolant Loops in operation and circulating reactor coolant.	Once every 12 hrs.	12 hrs.
		At shutdown with average coolant temperature $\geq$ 350 F, verify		
		a. One (1) reactor Coolant Loop in operation and circulating reactor coolant.	Once every 12 hrs.	12 hrs.
		b. A second Coolant Loop operable.	Once every 7 days	7 days
		At shutdown (not refueling) with average coolant temperature < 350 F, verify		
		a. One (1) Coolant Loop is in operation and circulating reactor coolant.	Once every 12 hrs.	12 hrs.
		b A second Coolant Loop operable.	Once every 7 days	7 days
		At refueling shutdown, verify that one (1) residual heat removal Coolant Loop is in operation and circulating sufficient reactor coolant to maintain core outlet temperature below 160 F.	Once every 4 hrs.	4 hrs.

+ N.A. during cold or refueling shutdowns. The specified tests, however, shall be performed prior to heatup above 200°F.

* When activity exceeds 10% of specification, frequency shall be changed to daily.

*** N.A. during cold or refueling shutdowns, or at hot shutdown when all main steam isolation valves are shut. The specified tests, however, shall be performed within one surveillance period prior to starting the turbine.

B3.1 BASES FOR LIMITING CONDITIONS FOR OPERATION, REACTOR COOLANT SYSTEM

1. Operational Components

The specification requires that a sufficient number of reactor coolant pumps be operating to provide coast down core cooling in the event that a loss of flow occurs. The flow provided will keep DNBR well above 1.30. When the boron concentration of the Reactor Coolant System is to be reduced the process must be uniform to prevent suddent reactivity changes in the reactor. Mixing of the reactor coolant will be sufficient to maintain a uniform boron concentration if at least one reactor coolant pump or one residual heat removal pump is running while the change is taking place. The residual heat removal pump will circulate the reactor coolant system volume in approximately one half hour.

Each of the pressurizer safety valves is designed to relieve 283,300 lbs. per hr. of saturated steam at the valve set point. Below 350°F and 450 psig in the Reactor Coolant System, the Residual Heat Removal System can remove decay heat and thereby control system temperature and pressure. If no residual heat were removed by any of the means available the amount of steam which could be generated at safety valve lifting pressure would be less than the capacity of a single valve. Also, two safety valves have capacity grater than the maximum surge rate resulting from complex loss of load.(2)

The 50°F limit on maximum differential between steam generator secondary water temperature and reactor coolant temperature assures that the pressure transient caused by starting a reactor coolant pump when cold leg temperature is $\leq$ 275°F can be relieved by operation of one Power Operated Relief Valve (PORV). The 50°F limit includes instrument error.

The plant is designed to operate with all reactor coolant loops in operation, and maintain DNBR above 1.30 during all normal operations and anticipated transients. In power operation with one reactor coolant loop not in operation this specification requires that the plant be in at least Hot Shutdown within 1 hour.

In Hot Shutdown a single reactor coolant loop provides sufficient heat removal capability for removing decay heat; however, single failure considerations require that two loops be operable.

In Cold Shutdown, a single ractor coolant loop or RHR coolant loop provides sufficient heat removal capability for removing decay heat; but single failure considerations require that at least two loops be operable. Thus, if the reactor coolant loops are not operable, this specification requires two RHR loops to be operable.

The operation of one Reactor Coolant Pump or one RHR pump provides adequate flow to ensure mixing, prevent stratification and produce gradual reactivity changes during boron concentration reductions in the Reactor Coolant System. The reactivity change rate associated with boron reduction will, therefore, be within the capability of operator recognition and control.

The requirement that at least one residual heat removal (RHR) loop be in operation during Refueling Shutdown ensures that (1) sufficient cooling capacity is available to remove decay heat and maintain the water in the reactor pressure vessel below 160 F as required during Refueling Shutdown and (2) sufficient coolant circulation is maintained through the reactor core to minimize the effect of a boron dilution stratification.

The requirement to have two RHR loops operable when there is less than 23 feet of water above the core ensures that a single failure of the operating RHR loop will not result in a complete loss of residual heat removal capability. With the reactor vessel head removed and 23 feet of water above the core, a large heat sink is available for core cooling. Thus, in the event of a failure of the operating RHR loop, adequate time is provided to initiate emergency procedures to cool the core.

2. Pressure/Temperature Limits

All components in the Reactor Coolant System are designed to withstand the effects of cyclic loads due to system temperature and pressure changes. These cyclic loads are introduced by normal load transients, reactor trips, and startup and shutdown operations. The various categories of load cycles used for design purposes are provided in

SAFETY EVALUATION

Re: Turkey Point Units 3 & 4
Docket Nos. 50-250, 50-251
Proposed Tech Spec Amendment

I. Introduction

This evaluation supports a proposal to revise Specification 3.4.1 to require redundancy in available Residual Heat Removal Systems (RHR) or Reactor Coolant System loops, and to add the necessary surveillance items to Table 4.1.2 to ensure the operability of the RHR and Reactor Coolant Systems.

II. Discussion

The proposed revisions to Technical Specification 3.4.1 and Tables 4.1.2 are necessary to comply with an NRC letter dated June 11, 1980. The purpose of these changes is to provide for redundancy of decay heat removal systems to ensure adequate decay heat removal capability during all phases of reactor plant operations.

III. Conclusion

We have concluded, based on the considerations discussed above, that: (1) The amendment does not increase the probability or consequences of accidents previously considered and does not reduce the margin of safety, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

STATE OF FLORIDA)
) ss.
COUNTY OF DADE)

Robert E. Uhrig, being first duly sworn, deposes and says:

That he is a Vice President of Florida Power & Light Company, the Licensee herein;

That he has executed the foregoing document; that the statements made in this said document are true and correct to the best of his knowledge, information, and belief, and that he is authorized to execute the document on behalf of said Licensee.

Robert E. Uhrig

Subscribed and sworn to before me this

30th day of December, 1980

Lois I. Marino

NOTARY PUBLIC, in and for the county of Dade, State of Florida

My commission expires: NOTARY PUBLIC STATE OF FLORIDA at LARGE MY COMMISSION EXPIRES AUGUST 24, 1981 BONDED THRU MAYNARD BONDING AGENCY