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June 5, 1984

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Ms. E. G. Adensam, Chief
Licensing Branch No. 4

Re: Catawba Nuclear Station, Unit 1
Docket No. 50-413
Draft Technical Specifications

Dear Mr. Denton:

Attachments 1-5 of this letter contain proposed amendments to the Draft Technical Specifications for Catawba Unit 1. Each attachment contains the proposed changes and a discussion of the justification.

Very truly yours,

Hal B. Tucker

Hal B. Tucker

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Attachments

cc: Mr. James P. O'Reilly, Regional Administrator
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Attachment 1

Proposed Amendment to Catawba Unit 1 Draft
Technical Specification 3.7.12 Concerning
Area Temperature Monitoring

The proposed change would delete Technical Specification 3/4.7.12, Area Temperature Monitoring.

In accordance with 10 CFR 50.49 and in response to NUREG-0588 and SER Open Item 4, Duke submitted information pertaining to the environmental qualification of electrical and mechanical equipment important to safety. These submittals are dated June 17, 1982, February 7, 1984, February 8, 1984, March 16, 1984, April 16, 1984 and April 25, 1984. Meetings were held on February 8, 1984 and March 6, 7, and 8, 1984 between members of the NRC Staff and Duke Power employees to discuss these submittals and to conduct an environmental qualification audit at Catawba.

For equipment required to perform a safety function in a harsh environment, environmental qualification including the effects of aging are addressed in the qualification program as required by 10 CFR 50.49 and NUREG-0588. For electrical equipment located in a mild environment, the NRC has stated in the Statement of Consideration for 10 CFR 50.49 (Comments on the Proposed Rule, Paragraph (3), Scope) that

> "the Commission has concluded that the general quality and surveillance requirements applicable to electric equipment as a result of the Commission regulations, including 10CFR 50; Appendix B, are sufficient to ensure adequate performance of electric equipment important to safety located in mild environments."

Based on the Catawba equipment qualification program and preventive maintenance and surveillance programs, it is concluded that an area temperature monitoring system as described in Technical Specification 3/4.7.12 is not required at Catawba.

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LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

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BASES

SECTION PAGE

PLANT SYSTEMS

DELETE

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3/4.7.12 AREA TEMPERATURE MONITORING

LIMITING CONDITION FOR OPERATION

3.7.12 The temperature of each area shown in Table 3.7-5 shall not be exceeded for more than 8 hours or by more than 30°F.

APPLICABILITY: Whenever the equipment in an affected area is required to be OPERABLE.

ACTION:

a. With one or more areas exceeding the temperature limit(s) shown in Table 3.7-5 for more than 8 hours, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that provides a record of the cumulative time and the amount by which the temperature in the affected area(s) exceeded the limit(s) and an analysis to demonstrate the continued OPERABILITY of the affected equipment.

b. With one or more areas exceeding the temperature limit(s) shown in Table 3.7-5 by more than 30°F, prepare and submit a Special Report as required by ACTION a. above and within 4 hours either restore the area(s) to within the temperature limit(s) or declare the equipment in the affected area(s) inoperable.

SURVEILLANCE REQUIREMENTS

4.7.12 The temperature in each of the areas shown in Table 3.7-5 shall be determined to be within its limit at least once per 12 hours.

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TABLE 3.7-4

AREA TEMPERATURE MONITORING

AREA	TEMPERATURE LIMIT (°F)
1.	
2.	
3.	
4.	
5.	

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THIS PAGE OPEN PENDING RECEIPT OF INFORMATION FROM THE APPLICANT

PLANT SYSTEMS

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3/4.7.~~13~~ 12 GROUNDWATER LEVEL

LIMITING CONDITION FOR OPERATION

3.7.~~13~~ 12 The groundwater level shall be maintained at or below the top of the adjacent floor slabs of the Reactor Containment Building and the Auxiliary Building.

APPLICABILITY: At all times.

ACTION:

a. With the groundwater level above the top of the adjacent floor slab by less than or equal to 5 feet, reduce the groundwater level to or below the top of the affected adjacent floor slab within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With the groundwater level above the top of the adjacent floor slab by greater than 5 feet but less than 15 feet, reduce the groundwater level to less than or equal to 5 feet above the top of the affected adjacent floor slab within 24 hours and to or below the top of the affected adjacent floor slab within 7 days of initially exceeding the above limits or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With the groundwater level above the top of the adjacent floor slab by greater than or equal to 15 feet, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the next 30 hours. Perform an engineering evaluation of determine the effects of this higher groundwater level on the affected building(s) and submit the results of this evaluation and any corrective action determined necessary to the Commission as a Special Report pursuant to Specification 6.9.2 prior to increasing T_{avg} above 200°F.

d. Determine the rate of rise of groundwater when the level reaches the top of the floor slab. If the rate of rise of the groundwater level is greater than or equal to 0.3 feet per hour, determine the rate of rise at least once per 30 minutes. If the rate of rise exceeds 0.5 feet per hour for more than 1 hour, be in at least HOT STANDBY within 1 hour and in COLD SHUTDOWN within the following 30 hours. If the rate of rise is less than 0.5 feet per hour, comply with the requirements of ACTIONS a. b. and c. above.

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PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.7.~~14~~ 12. The groundwater level shall be determined at the following frequencies by monitoring the water level and by verifying the absence of alarm in the six groundwater monitor wells as shown in FSAR Figure 2.4.13-14 installed around the perimeter of the Unit 1 Reactor and Auxiliary Building:

a. At least once per 7 days when the groundwater level is at or below the top of the adjacent floor slab, and

b. At least once per 24 hours when the groundwater level is above the top of the adjacent floor slab.

PLANT SYSTEMS

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BASES

FIRE SUPPRESSION SYSTEMS (Continued)

In the event the Fire Suppression Water System becomes inoperable, immediate corrective measures must be taken since this system provides the major fire suppression capability of the plant.

3/4.7.11 FIRE BARRIER PENETRATIONS

The functional integrity of the fire barrier penetrations ensures that fires will be confined or adequately retarded from spreading to adjacent portions of the facility. These design features minimize the possibility of a single fire rapidly involving several areas of the facility prior to detection and extinguishing of the fire. The fire barrier penetrations are a passive element in the facility fire protection program and are subject to periodic inspections.

Fire barrier penetrations, including cable penetration barriers, fire doors, fire dampers, and other fire barriers are considered functional when the visually observed condition is the same as the as-designed condition. For those fire barrier penetrations that are not in the as-designed condition, an evaluation shall be performed to show that the modification has not degraded the fire rating of the fire barrier penetration.

During periods of time when a barrier is not functional, either: (1) a continuous fire watch is required to be maintained in the vicinity of the affected barrier, or (2) the fire detectors on at least one side of the affected barrier must be verified OPERABLE and an hourly fire watch patrol established, until the barrier is restored to functional status.

~~3/4.7.12 AREA TEMPERATURE MONITORING~~

~~The area temperature limitations ensure that safety-related equipment will not be subjected to temperatures in excess of their environmental qualification temperatures. Exposure to excessive temperatures may degrade equipment and can cause a loss of its OPERABILITY. The temperature limits include an allowance for instrument error of ± 3.9°F.~~

3/4.7.~~13~~ 12 GROUNDWATER LEVEL

This specification is provided to ensure than groundwater levels will be monitored and prevented from rising to unacceptable levels. High groundwater levels could result in unacceptable structural stresses in the Containment and/or Auxiliary Building due to uplift and hydrostatic forces during design basis events. Although these buildings have been statically analyzed to withstand soil pressure along with the uplift and hydrostatic forces resulting from groundwater rebound to yard elevation (593'6"), this analysis did not include any other loadings and was not a design condition for these buildings.

Attachment 2

Proposed Amendment to Catawba Unit 1 Draft
Technical Specification 4.9.4.2.a Concerning
Containment Building Penetrations

The proposed change would delete the requirement to initiate Containment Purge flow "from the control room."

This change is required because the normal operation of this system is done from a control panel which is not located inside of the control room.

REFUELING OPERATIONS

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SURVEILLANCE REQUIREMENTS (Continued)

4.9.4.2 The Reactor Building Containment Purge System shall be demonstrated OPERABLE:

a. At least once per 31 days by initiating, ~~from the control room,~~ flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 continuous hours with the heaters operating;

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:

1) Verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% and uses the test procedures guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 28,000 cfm ± 10% (both exhaust fans operating);

2) Verifying within 31 days after removal, that a laboratory analysis of a presentative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.5,2 Revision 2, March 1978, for a methyl iodide penetration of less than 6%; and

3) Verifying a system flow rate of 28,000 cfm ± 10% (both exhaust fans operating) during system operation when tested in accordance with ANSI N510-1980.

c. After every 720 hours of charcoal adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 6%;

d. At least once per 18 months by:

1) Verifying that the pressure drop across the combined HEPA filters, charcoal adsorber banks, and moisture separators is less than 8 inches Water Gauge while operating the system at a flow rate of 28,000 cfm ± 10% (both exhaust fans operating);

2) Verifying that the filter cooling bypass valves can be opened by operator action; and

Attachment 3

Proposed Amendment to Catawba Unit 1 Draft
Technical Specification 3.4.9.3
Concerning Overpressure Protection Systems

The proposed revision would change the lift setting for the power operated relief valves from "less than or equal to 400 psig" to "less than or equal to 450 psig." The change is required to provide an allowance for possible drift and instrument error.

FSAR Table 5.4.13-1 and station procedures specify a lift setting of 400 psig. Increasing the lift setting in the Technical Specifications will allow operating flexibility and avoid a Technical Specification violation if instrumentation drifts.

The lift setting will remain at 400 psig per the station procedures. The Surveillance Requirements to verify this setpoint will also remain the same.

An inspection of the Heatup and Cooldown curves shows that there is a negligible difference between the limitations at 400 psig and 450 psig. Thus, if the setpoints drift up to 450 psig, the margin of safety would be insignificantly reduced.

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REACTOR COOLANT SYSTEM

OVERPRESSURE PROTECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.9.3 At least one of the following Overpressure Protection Systems shall be OPERABLE:

a. Two power operated relief valves (PORVs) with a lift setting of less than or equal to ~~400~~ 450 psig, or

b. The Reactor Coolant System depressurized with a Reactor Coolant System vent of greater than or equal to 4.5 square inches.

APPLICABILITY: MODE 4 when the temperature of any Reactor Coolant System cold leg is less than or equal to 285°F, MODE 5 and MODE 6 with the reactor vessel head on.

ACTION:

a. With one PORV inoperable, restore the inoperable PORV to OPERABLE status within 7 days or depressurize and vent the Reactor Coolant System through at least a 4.5 square inch vent within the next 8 hours.

b. With both PORVs inoperable, depressurize and vent the Reactor Coolant System through at least a 4.5 square inch vent within 8 hours.

c. In the event either the PORVs or the Reactor Coolant System vent(s) are used to mitigate a Reactor Coolant System pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the PORVs or Reactor Coolant System vent(s) on the transient, and any corrective action necessary to prevent recurrence.

d. The provisions of Specification 3.0.4 are not applicable.

Attachment 4

Proposed Amendment to Catawba Unit 1 Draft
Technical Specification Table 3.3-4
Item 7. Containment Pressure Control System

The proposed change would revise the Setpoints and Allowable Values for the Containment Pressure Control System.

The current Setpoints and Allowable Values are all the same. The as-built system cannot start and terminate at the same setpoint. In addition, there is no allowance for instrument error or drift.

The proposed Setpoints and Allowable Values are consistent with the FSAR analyses and will allow needed flexibility in the operation of the system.

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
6. Turbine Trip					
a. Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
c. Steam Generator Water Level-High-High (P-14)	5.4	2.18	1.5	$\leq$ 82.4% of narrow range instrument span	$\leq$ 84.2% of narrow range instrument span
d. Trip of All Main Feedwater Pumps	N.A.	N.A.	N.A.	N.A.	N.A.
e. Doghouse Water Level-High	1.0	0	0.5	11 inches above 577' floor level	12 inches above 577' floor level
f. Safety Injection	See Item 1. above for all Safety Injection Setpoints and Allowable Values.				
7. Containment Pressure Control System					
a. Start Permissive	N.A.	N.A.	N.A.	$\leq$ 0.40 $\geq$ ~~0.25~~ psid	$\leq$ 0.45 $\geq$ ~~0.25~~ psid
b. Termination	N.A.	N.A.	N.A.	$\geq$ 0.25 psid	~~$\geq$ 0.25~~ $\geq$ 0.30 psid
8. Auxiliary Feedwater					
a. Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.

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Attachment 5

Proposed Amendment to Catawba Unit 1 Draft
Technical Specification 3/4.3.4
Concerning Turbine Overspeed Protection

Catawba Technical Specification 3.3.4 states that at least one Turbine Overspeed Protection System shall be operable in Modes 1, 2, and 3 if any one Main Steam Isolation or Main Steam Isolation By-Pass valve is not fully closed. To prove operability, per Catawba Tech Spec Item 4.3.4.2.a, all turbine valves must complete a full cycle of travel from the running position. This is, with slight modification, a direct quote from NUREG-0452 Rev. 4 "Standard Technical Specifications for Westinghouse Pressurized Water Reactors" which are applicable to plants utilizing Westinghouse NSSS and BOP systems, including Westinghouse turbines and control systems. The Westinghouse turbine control system design will allow testing of this nature prior to turbine start-up utilizing normal operating procedures. Catawba utilizes a General Electric turbine and control system which does not lend itself to this type of test using normal operating procedures. In order to test all the turbine valves prior to turbine start-up, the Electro-hydraulic Control System would require a temporary modification of the electronic circuits to allow the turbine valve groups (i.e., Stop, Control, Intercept, and Reheat Stop valves) to reposition to the "running position." Manipulation of the electronic circuits would cause the bypassing of circuits incorporated to protect the turbine from thermal transients and overspeed during normal turbine start-up and enhance turbine degradation. An alternative would be cycling the turbine valves as they are operated during a normal start-up. By performing the test during the normal start-up period, there would be no abnormal valve alignment other than a valve being misaligned to the "closed" position, which is more conducive to safe operations. During a normal start-up, the Turbine Control Valves and Reheater Stop Valves are cycled prior to opening the Main Stop Valves and rolling the turbine (these valves are the secondary line of defense against turbine overspeed). After warming the turbine steam chest and shell, the turbine is brought to synchronous speed (1800 rpm). Once 1800 rpm is reached and control is stabilized, the Main Stop Valves (primary overspeed protection) and the combined Isolation Valves may be cycled.

Therefore, in order to be able to prove turbine valve operability during start-up of the turbine, the Catawba Tech Spec must be changed as indicated.

INSTRUMENTATION

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3/4.3.4 TURBINE OVERSPEED PROTECTION

LIMITING CONDITION FOR OPERATION

3.3.4 At least one Turbine Overspeed Protection System shall be OPERABLE.

APPICABILITY: MODES 1, 2* ~~and 3*~~.

ACTION:

a. With one stop valve or one control valve per high pressure turbine steam line inoperable and/or with one intermediate stop valve or one intercept valve per low pressure turbine steam line inoperable, restore the inoperable valve(s) to OPERABLE status within 72 hours, or close at least one valve in the affected steam line(s) or isolate the turbine from the steam supply within the next 6 hours.

b. With the above required Turbine Overspeed Protection System otherwise inoperable, within 6 hours isolate the turbine from the steam supply.

SURVEILLANCE REQUIREMENTS

4.3.4.1 The provisions of Specification 4.0.4 are not applicable.

4.3.4.2 The above required Turbine Overspeed Protection System shall be demonstrated OPERABLE:

a. At least once per 7 days by cycling each of the following valves through at least one complete cycle from the running position:

   1) Four high pressure turbine stop valves,

   2) Four high pressure turbine control valves,

   3) Six low pressure turbine intermediate stop valves, and

   4) Six low pressure turbine intercept valves.

b. At least once per 31 days by direct observation of the movement of each of the above valves through one complete cycle from the running position,

c. At least once per 18 months by performance of a CHANNEL CALIBRATION on the Turbine Overspeed Protection Systems, and

d. At least once per 40 months by disassembling at least one of each of the above valves and performing a visual and surface inspection of valve seats, disks and stems and verifying no unacceptable flaws or corrosion.

~~*With any main steam line isolation valve and/or any main steam line isolation valve bypass valve not fully closed.~~