



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA STREET, N.W.
 ATLANTA, GEORGIA 30303

Report No. 50-413/84-38

Licensee: Duke Power Company
 422 South Church Street
 Charlotte, NC 28242

Facility Name: Catawba 1

Docket No.: 50-413

License No.: CPPR-116

Inspection at Catawba Nuclear Station

Inspectors:	<u><i>William J. McGuire</i></u>	<u>5/9/84</u>
	W. Orders, Senior Resident Inspector (McGuire)	Date Signed
for	<u><i>A. Robinson</i></u>	<u>5/9/84</u>
	S. Weise, Senior Resident Inspector (Robinson)	Date Signed
for	<u><i>A. Sequoyah</i></u>	<u>5/9/84</u>
	S. Butler, Resident Inspector (Sequoyah)	Date Signed
for	<u><i>A. Krug</i></u>	<u>5/9/84</u>
	H. E. Krug, Reactor Inspector	Date Signed
for	<u><i>A. Debs</i></u>	<u>5/9/84</u>
	B. T. Debs, Reactor Inspector	Date Signed
for	<u><i>A. Merriweather</i></u>	<u>5/9/84</u>
	N. Merriweather, Reactor Inspector	Date Signed
for	<u><i>A. Falconer</i></u>	<u>5/9/84</u>
	D. Falconer, Reactor Inspector	Date Signed
Approved by:	<u><i>Vergeth Brownlee</i></u>	<u>5/9/84</u>
	V. L. Brownlee, Section Chief	Date Signed
	Division of Reactor Projects	

SUMMARY

Inspection on March 26-30, 1984

Areas Inspected

This special, unannounced inspection involved 245 inspector-hours on site in the areas of Technical Specifications.

Results

Of the one area inspected, no violations or deviations were identified.

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 PDR ADOCK 05000413
 Q PDR

REPORT DETAILS

1. Persons Contacted

Licensee Employees

W. Graves, Superintendent of Operations
G. Smith, Superintendent Maintenance
J. Knuti, Operations Engineer
R. Ouellette, Licensing Engineer
*L. Hartzell, Licensing Engineer
*J. Cox, Superintendent Technical Services
A. Franklin, Superintendent Administrative Services
P. Leroy, Licensing Engineer

Other licensee employees included construction craftsmen, technicians, operators, mechanic, and security force members.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on March 30, 1984, with those persons indicated in Paragraph 1 above. The licensee expressed cognizance and understanding of the inspector's findings.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. The Catawba Technical Specifications (TSs) were reviewed in order to determine that the specifications are technically accurate and sufficient, that the specifications reflect the actual as-built plant that the limiting conditions for operation, action statements and surveillance requirements are viable and that the specifications are clear and enforceable.

In order to determine the validity of the Catawba specifications, they were compared with the Westinghouse Standard specifications and with those of recently licensed like design, facilities. Further, the specifications were field verified by walking the applicable systems, and comparing the as built plant with the specifications. Systems walked include but were not limited to Safety Injection, Residual Heat Removal, Centrifugal Charging, Containment Purge and Exhaust, Spent Fuel Building Exhaust, Electrical Power Systems Auxiliary Feedwater, Radioactive Gas Effluent Monitoring, Loose Parts Detection, Turbine Overspeed, Moveable Incores, Seismic Instrumentation Remote Shutdown, Reactor Coolant, Containment Gas and Particulate

Monitors and Containment Spray. The discrepancies detected are detailed below:

<u>Technical Specification</u>	<u>Discrepancy</u>
3.3.1, Table 3.3-1 Item 16.b	Minimum channels operable indicates only one channel of turbine stop valve closure is required to be operable. This discrepancy with the Standard Technical Specification (STS) has been resolved by an appropriate adjustment to the required action statement
3.3.2, Table 3.3-3 Item 5b item 6c	The licensee is in the process of installing a fourth channel of steam generator level-high high circuitry for each steam generator.
item 8.a	Total number of channels, channels to trip and minimum channels operable should indicate that numbers are on a <u>per pump</u> basis.
item 11.c item 15.c item 16.c	Total number of channels, channels to trip and minimum channels operable should indicate that numbers are on a <u>per bus</u> basis.
Item 15.a item 15.b	Total number of channels, channels to trip and minimum channels operable should indicate that numbers are on a <u>per diesel</u> generator basis.
item 11 item 16 item 17	The word "Isolation" should be changed to "operation" in the item title.
item 8.c(2)	Channels to trip should indicate "2 per steam generator in any 2 steam generators."
item 11	Safety injection initiating function should be added for the system.
item 11.a item 12.a item 13.a item 14.a item 16.a item 17.a	Items indicate that a manual initiation <u>channel</u> exists for the noted system, however manual initiation can only be accomplished by manual control on a component by-component basis. The licensee is presently negotiating a resolution to this discrepancy with NRR.

4.3.2.1, Table 4.3-2

- item 11.a
- item 12.a
- item 13.a
- item 14.a
- item 16.a
- item 17.a

Items indicate that a manual initiation channel exists for the noted system, however manual initiation can only be accomplished by manual control on a component by-component basis. The licensee is presently negotiating a resolution to this discrepancy with NRR.

4.3.2.1, Table 4.3-2
various items

Section 7.3.2.13 of the SER indicates that the TSs should include monthly testing of the slave relays in the engineered safeguards systems, instead of quarterly testing as indicated in the proof and review copy, until an acceptable circuit modification is made to detect potentially undetectable failures of on-line test circuitry. The licensee plans to install the modification prior to fuel load and as such will not pursue a change to these specifications.

2.2.1.b.1

The intent of these TSs is ambiguous. The licensee intends to submit appropriate clarifications.

3.3.2.b.1

3.4.1.1

Action Statement is incorrect. It should read "...be in at least HOT STANDBY within 1 hour" to be consistent with STS.

3.4.1.3

Footnote ** is different from STS. Discussion with NRR indicates this is acceptable.

3.4.1.4.1 and

3.4.1.4.2

Reference to operability of RHR pumps per 4.0.5 has been deleted. Discussion with NRR indicates that surveillance requirement 4.0.5 is sufficient to ensure ASME Section XI testing is done. In TS 3.4.1.4.1 footnote ## is different from STS. Discussion with NRR indicates that this is acceptable.

3.4.3

The LCO is not consistent with STS. It should read 1656 cubic feet instead of 1600 cubic feet.

3.4.5

Reporting requirement for C-3 inspection findings are different from STS. Discussion with NRR reveals that this is acceptable.

- 3.4.6.2 Surveillance requirement 4.4.6.2.1.c should read "...once per 31 days with the modulating valve fully open..." to be correct and consistent with STS.
- The RHR pump Hot Leg suction valves should be included in Table 3.4-1 to be consistent with other plants and the intent of the requirement. Table 3.4-1 should have a section added as follows:
- CN 1561-1.0
- | | |
|--------|--------------------|
| IND1B | A RHR Pump Suction |
| IND2A | A RHR Pump Suction |
| IND36B | B RHR Pump Suction |
| IND37A | B RHR Pump Suction |
- 3.4.8 References to gross radioactivity and the deletion of the reporting requirement of fuel burnup by core region is different from STS. Discussions with NRR reveals this is acceptable.
- 3.4.9.2 Requirement of a 320°F pressurizer spray differential limit has been deleted. Discussions with NRR reveals that this is acceptable.
- 3.5.1.1.b Need to submit appropriate percent volume values. Based on discussions with the licensee, there is a discrepancy between the licensee and vendor calculated values that must be resolved.
- 3.5.1.1 Action statement b. is not consistent with STS. Discussions with NRR indicated that the Catawba specification was correct.
- 4.5.1.1.1.b Need to provide gallons or percent level change equivalent to 1% tank volume.
- 4.5.1.2.c.1 Delete words "in the instrument calibration" and provide missing tolerance band data.
- 4.5.1.2.d Does not require the burst test of STS. Discussions with the TS section of NRR indicated that the burst test requirement was being deleted due to lack of technical value.

- 4.5.2.h Based on discussions with the licensee and review of Westinghouse letter FSD/SS-DCP-3097 dated February 7, 1984:
- Item 1).a) should be 333 gpm
Item 2) a) should be 462 gpm
item 3) should be 3648 gpm
- 3.5.4.a. According to the Refueling Water Storage Tank curve 7.12 of procedure OP/1/A/6700/01, 350,000 gallons is equivalent to about 88% vice 90% level.
- 4.9.1.3 Licensee needs to submit valve numbers of those valves identified as needing isolation during refueling (NV-231, 237, 240, 241, 244).
- 4.9 Does not require STS 4.9.9 testing that isolation occurs on manual initiation and on high radiation signal from each of the containment radiation monitor instrument channels. Based on discussions with the TS Section of NRR, the intent of STS is met by Catawba TS Tables 3.3-9 and 4.3-9 with respect to testing prior to gaseous effluent release. This does not appear to test the manual isolation feature from the control board.
- 4.9.4.2.b.2 and c. Specifies a methyl iodide penetration of less than 6%. This does not appear consistent with Regulatory Guide 1.52, Revision 2. Based on discussions with the TS Section of NRR and review of Generic Letter 83-13, this 6% valve appears acceptable under current technical criteria.
- 4.9.7 The Spent Fuel Shipping Cask crane mechanical stop is not required to be tested. While this is not consistent with STS, the stop is a large, permanent, track-mounted, metal stop, that would not be expected to move.
- 4.9.8 Does not require the STS residual heat removal (RHR) loop operability testing pursuant to TS 4.0.5. This appears to be a redundant requirement since TS 4.0.5 is in effect whenever RHR is required to be operable.

4.9.11.2.d.2

STS requires maintaining a negative pressure > 1/4 inch water gauge vice the 1/8 inch of Catawba TS. Based on discussions with the TS Section of NRR, the Catawba value appears to be technically justifiable.

3.9.11

Is not consistent with STS 3.9.12 in that the specification does not indicate that there are two independent trains of fuel handling ventilation exhaust. This change would also affect the action statement section in order to be consistent with STS.

4.9.11.a

Due to the deficiency noted above, this specification should reflect the staggered test basis of STS 4.9.12.

4.8.1.1.2

Catawba's and McGuire's TSs differ from the STS in that the test for impurities is not required prior to the addition of new fuel oil to the storage tanks.

The licensee has submitted a proposed amendment to this section dated March 15, 1984 which also differs from the STS. The proposed change would change the sampling interval, test method, and the required tests. This issue remains for NRR's determination.

3.8.1.1.b.3

STS requires a separate fuel transfer pump to be operable in modes 1, 2, 3 and 4. However, Catawba TS section 3.8.1.1.b.3 addresses a separate fuel transfer valve/diesel generator. (FSAR Section 9.5.4.2).

The inspector reviewed the as-built configuration of the DG fuel storage system and confirmed that the as-built configuration of the fuel storage system is such that the fuel from the fuel oil storage system is gravity feed into the day tanks and the level is controlled by the fuel transfer valve. The level indication on the fuel storage tanks is located outside, near the fuel storage tanks and a low level alarm is annunciated in the DG room on the DG Control Panel. However, level is not indicated in the control room.

In Summary, this TS Requirement 3.8.1.1.b.3 appears appropriate based on the design at Catawba.

3.8.1.1

Action Statement e, eighth line, change the phrase "or be in least Hot Standby" to the following: or be in at least Hot Standby.

4.8.1.1.2.e.3

Catawba's TSs differ from McGuire's in that McGuire's TSs are similar to the STS requiring the generator to be capable of rejecting a load of 7000 kw without tripping and the generator voltage shall not exceed 4784 volts during and following the load rejection. However, Catawba TS address a speed of 500 RPM during and following the load rejection.

Catawba's FSAR section 8.3.1.1.3.4 states that the maximum engine speed on a full-load rejection is 465 RPM.

What is the basis for the 500 RPM and how does this relate to the STS requirement of a maximum voltage of 4784 volts?

4.8.1.1.2.e.13

Catawba's TS does not agree with McGuire's or the STS in this area. Catawba's TS describes a maintenance mode lockout instead of an emergency stop as shown in STS.

The inspector reviewed the as-built installation for the DGs and verified that the maintenance mode lockout is installed at Catawba.

In Summary, this TS Requirement 4.8.1.1.2.e.13 appears appropriate based on the design at Catawba.

4.8.1.1.4

Catawba's and McGuire's TSs are similar in this area. However the following concerns were identified.

- a. The surveillance requirements on the DG batteries appear to be inadequate when compared to surveillance requirements of 4.8.2.1.1. These batteries are nickel-cadmium type compared to lead-acid. However, some of the line items included in the surveillance requirements for lead-acid batteries are also applicable to nickel-cadmium batteries.

- b. The DG battery chargers should have an 18 month surveillance test.

4.8.2.1.1.c.4

The STS requires the battery charger to be tested for at least 8 hours. However, both Catawba and McGuire's TSs require a one (1) hour test.

What is the basis for the 1 hour in lieu of the 8 hour requirement?

4.8.2.1.1.d.2

This statement is inadequate because it only addresses applying a dummy load to DC batteries 1EBA and 1EBD. What about the other two batteries 1EBB and 1EBC. Also should battery terminal voltage be allowed to get as low as 103 volts. McGuire's TS requires 105 volts.

3.8.2.1

This section does not address the DG batteries. SER section 8.3.2, DC Power Systems, page 8-10, states that if the 750 Ah batteries are supplying both division's loads its associated diesel generator battery must be available. However, there has not been provisions made in the TSs (in particular the action statements) to assure that the corresponding DG battery/charger is operational.

3.8.2.1.d

This statement is confusing and should be reworded to be more straight forward.

4.8.2.1.1.f

Change 80% to 90% in the last sentence of this statement to be in accordance with STS.

In addition to the above Catawba TSs differs from both STS and McGuire's TSs in that this surveillance is required annually.

The licensee informed the inspector that the batteries were oversized by 20% so that 80% of the manufacturers rating would still be 100% capacity to supply the loads. Therefore, it appears that this TS is adequate.

3.8.3.1

Catawba and McGuire TSs are similar in this area. However, they both differ from STS. Yet they both seem appropriate based on plant design.

3.8.3.1 Action 9

Change the word with in the third line to within.

3.8.4

4.8.4.a.1.b

The wording differs from McGuire's TSs and the STS and it should be changed to conform to McGuire's or STS wording.

Table 3.8-1

page 3/4 8-23

Change V/V No. 1NI 394A to 1KC 394A for MCC compartment 1EMXK-FO2A.

3/4 8-25

Item 1 - Valve listed on previous page (spare size 1 CFVR starter is the way the compartment is identified in the field).

3/4 8-32

Item 1 - Add 1A to Ice Condenser Equipment Access Door Hoist Motor (1A to be added)

3/4 8-47

Item 4 - MCC compartment is identified in the field as Hot Leg Inj. Check Valve Test Isolation valve. (which label is correct)?

3/4 8-48

Item 2 - Change PHP1B to PHP1A

3/4 8-53

Items 3-7, check labeling on these items.

The following loads supplied from MCC-PHPIC were not included in the above table and possibly should have been included.

FO1B RC Pressurizer Heaters 19, 20 and 45
 FO1C RC Pressurizer Heaters 24, 51 and 52
 FO1D RC Pressurizer Heaters 29, 57 and 58
 FO2C RC Pressurizer Heaters 34, 63 and 64
 FO2D RC Pressurizer Heaters 39, 69 and 70
 FO2E RC Pressurizer Heaters 44, 75 and 76

The inspector believes that the development of this list should be reviewed to verify that all cables supplying loads inside containment are indeed included in this table.

4.6.1.2.c.3

Westinghouse STS and McGuire TS require that the quantity of gas injected into the containment or bled from the containment during the supplemental test to be equivalent to at least 25 percent of the total measured leakage of P_a or P_t . The Catawba TS requires

the rate to be between $0.75L_a$ and $1.25L_a$. Discussions with the licensee reveal that the requirements as detailed in the Catawba TS stem from ANSI 56.8 1981, and are correct as written.

Table 3.6-1

Table 3.6-1 does not list penetration M228 for the Standby Makeup Pump.

Table 3.6-2

Valves NI-9A and NI-10 should be removed from the Table in that the valves do not isolate on a Phase A.

Table 3.6-2

Valves NS-12, NS-15B, NS-29, and NS-32A should be removed from the table in that the valves do not isolate on a Phase B.

3.11.1.4

"Liquid Holdup tanks"

The inspector discussed the applicability of this TS with licensee personnel. The licensee reviewed the functions of the 20,000 gallon back wash tank which receives the secondary system POWDEX resin, the 10,000 gallon Decant tank, and the licensee's ability to process contaminated condensate and resin through this system in the event of a primary to secondary leak. It was concluded that there is no apparent need for this TS. Licensee management was requested to evaluate the need for this specification and consider deleting it if no engineering justification could be concluded.

3/4.3.3

"Radiation Monitoring For Plant Operations"

It was noted that item No. 4 of table 3.3-6 incorrectly lists EMF-43436. Licensee personnel acknowledged this as a typographical error which will be corrected to read EMF41. Licensee engineers were informed that Action Statement 27 incorrectly states "initiate operation of the Control Room Ventilation System in the recirculation mode." It should read "Control Room Emergency Ventilation System unit flow through the HEPA filters and charcoal adsorbers." Licensee engineers agreed with the inspectors observations and indicated that a proposed change would be forthcoming.

3.3.3.11

"Radioactive Gaseous Effluent Monitoring Instrumentation"

Surveillance required for the waste gas holdup system and containment purge system instrumentation as listed on table 4.3-9 is required only during gaseous effluent releases. Licensee personnel indicated that this table was being changed to require the surveillances at all times which is consistent with the STS.

The inspector performed a partial walk down of the system with licensee personnel who had performed prior "as built" system walk downs. As a result of these walk downs, health physics personnel have expressed concern regarding the length of sample lines and the number of 90° bends in these lines which may result in nonrepresentative sampling. The concerns of the health physics department have been evaluated by technical support and found to be with merit. Modifications are being planned with an estimated completion before criticality.

3.3.3.4

"Meteorological Instrumentation"

Table 3.3-8 indicates that meteorological monitoring instrumentation is located at a nominal elevation of 760 feet. Catawba Design Change Authorization (DCA) No. CN-1-C1080 will install a telescoping mast on which meteorological instrumentation will be mounted. This mast in its nested configuration will result in the top of the mast being 40 inches above the meteorological platform grating. The inspector informed licensee management that table 3.3-8 must reflect the correct location of meteorological monitoring instrumentation. Presently Catawba Unit 1 Meteorological System is being upgraded to comply with NUREG-0654, Appendix 2 and Regulatory Guide 1.23. This upgrade is being performed under DCA No. CN-1-C1067. Upgrade installation is expected to be completed by late April 1984 or early May 1984.

3.3.3.8

"Fire Detection Instrumentation"

Table 3.3-11 provides the number of smoke, flame, and heat detection instruments located in each fire zone. Licensee personnel have presently, determined that the number detectors in fire zones 9, 27, 28, 46, 56, 65, 66, 72, and 84 are different than those listed on the proposed changes to the Catawba Proof and Review TS forwarded to Mr. Harold R. Denton, Director, Office of Nuclear Reactor Regulation by Duke Power letter dated March 22, 1984. Licensee personnel indicated that action has been initiated to correct table 3.3-11.

Additionally, the licensee has determined that the present surveillance requirements of the current proof and Review TS are too restrictive in that nonrestorable spot-type detectors would have to be proven operable at least once every six months. This would require replacement of these detectors after testing. The licensee is considering submitting a proposed change to the Proof and Review TS which would include the surveillance requirement for nonrestorable spot-type detectors as well as that of the restorable type which appears in the McGuire TS 3.3.3.7 Surveillance Requirement 4.3.3.7.1.

3.3.3.9

"Loose-Part Detection System"

The inspector performed a partial system walk-down of this system with licensee personnel. The inspector did not identify any problems regarding the "as built" system and TS compliance.

3.3.3.7

"Chlorine Detection Systems"

The inspector performed a system walk-down of this system with licensee operations personnel. The inspector did not identify any problems regarding the "as built" system and TS compliance.

3/4.3.4

"Turbine Overspeed Protection"

The inspector performed a system walk-down of this system with licensee operations personnel. The inspector did not identify any

deficiencies regarding the "as built" system and TS compliance.

3.3.3.2

"Movable Incore Detectors"

The inspector performed a partial system walk-down of this system with licensee engineers. The CO₂ purge system for flux mapping had not been installed but was being scheduled for installation. The inspector did not identify any problems regarding the present "as built" condition of the system and TS compliance.

3.3.3.3

"Seismic Instrumentation"

Surveillance Requirement 4.3.3.3.2 requires that each of the required seismic monitoring instruments actuated during a seismic event greater than or equal to 0.01 g shall be restored to OPERABLE status within 24 hours following the seismic event. Licensee engineers indicated that it was doubtful that operability could be achieved within 24 hours for the presently installed systems. After discussions with the inspector, licensee personnel contacted the system vendor. The vendor informed the licensee that functional tests normally require two to three days. Licensee management was informed that their apparent inability to return required seismic monitoring instruments to an operable status within 24 hours is a NRC concern and that a licensee evaluation is required. The inspector performed a partial system walk-down with licensee engineers, however, indication could not be demonstrated due to depleted battery power.

3.3.3.6

"Accident Monitoring Instrumentation"

Table 3.3-10 indicates the total number of channels per instrument. The inspector reviewed instrumentation channels with licensee engineers. It was determined that the aforementioned table was in error regarding the total number of channels since there are 4 channels of containment pressure while the table indicates 2; there are three channels of steam line pressure per steam generator while the table indicates 2; and

there are 4 channels of Refueling Water Storage Tank Water Level while the table indicates 2. Licensee management was informed of these table errors.

3.3.3.5

"Remote Shutdown System"

Table 3.3-9 provides the minimum channels operable for each required instrument. For Reactor Coolant Loops A and B Hot Leg and Cold Leg temperature instruments, the table indicates that the required channel be operable during operation from the remote shutdown panel. Licensee management was informed that although a plug transfer must manually be performed to put these instruments in operation, they must be operable in modes 1, 2, and 3 (regardless of plug position) and that the statement regarding "operable during operation" should be deleted from the table.

The inspector performed an "as built" walk down of the system and a design review with licensee engineers. The licensee indicated that the installed transmitters which drive Tc and Th indication on the Auxiliary Shutdown Panel (ASP) are nonsafety equipment and would therefore violate separation criteria during an ASP event. This matter will be further discussed with NRR.

4.1.2.1.a

4.1.2.2.a

Catawba addresses the "heated" portion of the flow path. Both STS and McGuire Technical Specification say "heat traced."

The licensee indicated that the room itself may be heated. If so, the TS should so state.

4.1.2.3.1/4.1.2.4.1

McGuire TS requires that the charging pump be demonstrated OPERABLE by verifying a differential pressure across the pump.

McGuire requires that this demonstration be performed "on recirculation flow."

The licensee indicated, that to minimize instrumentation requirements the 2380 psid would be demonstrated using recirculation, while the remainder of the testing will be

performed in the charging mode. The licensee intends to confirm this explanation.

4.1.2.3.2/4.1.2.4.2

Catawba TS addresses a charging pump inoperability demonstration at least once per 31 days, except when the vessel head is removed, by verifying that the motor circuit breakers are secured in the open position or that the discharge of each charging pump is isolated... McGuire has a similar requirement.

STS requires the demonstration every 12 hours, and requires that the motor circuit breakers be removed from their electric supply circuits.

The licensee indicates that the Catawba breakers cannot be removed without disconnecting the wiring. The present TS is offered as an equivalent. The licensee intends to report on this difference.

3.1.2.2/3.1.2.4
3.1.2.2

Requires at least two of the following three ..."

"Modes 1, 2, 3 and 4*

"Only one boron injection flow path is required to be OPERABLE whenever the temperature of one or more of the RCS cold legs is less than or equal to 300°F"

STS has the asterisk at location (2) whereas Catawba and McGuire have it at location (1). The 300°F at location (3) is 275°F in the STS.

3.1.2.5.a/3.1.2.6.a

STS and McGuire TS both refer to a Boric Acid Storage System and at least one associated heat tracing system.

Catawba omits the reference to "at least one associated heat tracing system."

The licensee stated that this appears to be an omission and will report on this apparent omission.

3.1.2.5.a.2/3.1.2.6.a.2
3.1.2.6.b.2

Catawba indicates no upper limit on boron ppm for the Boric Acid Storage System. McGuire and STS both provide upper limits.

The licensee expects to provide an upper limit and will report on this item.

3.1.2.5.b.3/3.1.2.6.b.3

Catawba specifies a minimum solution temperature of 70°F for the Boric Acid Storage System. STS specifies 35°F.

The licensee indicates that it may seek to adopt the STS limit. The licensee indicated that it would review and report.

3.1.2.5.a.3/3.1.2.6.a.3

Catawba specifies a minimum solution temperature of 65°F for the Boric Acid Storage System. STS specifies 145°F.

The licensee indicated it would review and report.

4.1.2.5.b.3

Catawba specifies that the borated water source shall be demonstrated OPERABLE (in part) at least once per 24 hours by verifying the refueling water storage tank temperature when it is the source of borated water and the outside air temperature is less than 70°F. STS says 35°F.

The licensee is considering the adoption of the STS limit. The licensee stated it would review and report.

3.1.2.6.b.4

Catawba states that the refueling water storage tank should have a maximum solution temperature of 100°F. This specification does not appear in the STS.

The licensee stated that it would review and report.

4.1.2.6.b

Requires that each borated water source be demonstrated operable (in part) by verifying at least once per 24 hours, the refueling water storage tank temperature when the outside air temperature is either less than 70°F or greater than 100°F.

The licensee stated that they want to review the lower limit to see if 35°F is more appropriate, and to review the need for the upper limit.

4.1.3.3

With respect to determining the operability of the digital rod position indicator, STS requires a CHANNEL FUNCTIONAL TEST. McGuire TS requires a ANALOG CHANNEL OPERATIONAL TEST. Catawba prescribes a comparison with the demand position indicator.

The licensee stated it intends to review and report on the adequacy of its specification at Catawba and McGuire. The licensee indicates both stations have identical digital rod position indicators.

3.1.3.4

Specifies a rod drop time of less than or equal to 3.3 seconds for Catawba. STS specifies ≤ 2.2 seconds, McGuire U-1 specifies ≤ 2.2 seconds, McGuire U-2 specifies ≤ 3.3 seconds.

Catawba U-1 is to use optimized fuel (WCAP 9500) and B4C control rods (WCAP 8846-A). The inspector concluded that, based upon discussions of plant personnel and inspection of the above mentioned two documents, the specification of ≤ 3.3 seconds for the rod drop times at Catawba appears appropriate.

3.1.3.4.a

Catawba specifies a core average temperature of greater than or equal to 551°F for the performance of rod drop time tests. STS specifies 541°F.

The licensee indicates that it will review and report on this item.

Table 3.7-1

Specifies "Maximum Allowable Power Range Neutron Flux High Setpoint With Inoperable Steam Line Safety Valves During Four Loop Operation".

While the setpoints shown are the same as those used at MCGuire, two of the three setpoints are different than the STS.

The licensee indicated it would review and report.

Table 3.7-3

Addresses steam line safety valve lift settings and orifice sizes. Catawba orifice sizes are different than those listed for

McGuire; and, two of the five lift settings are different.

The licensee stated it will review and report.

4.7.1.2.1.a.2

For the steam turbine driven auxiliary feedwater pump, Catawba specifies a flow greater than or equal to 400 gpm at a total dynamic head of greater than or equal to 3450 feet, with the steam supply pressure greater than 600 psig. Licensee personnel indicate that the minimum flow requirement is 492 gpm. McGuire requires greater than 900 gpm at a pressure greater than or equal to 1210 psig with a steam supply pressure greater than 900 psig.

The licensee stated that it will review and report.

4.7.1.2.1.b.3

Requires a verification that the suction valve for each auxiliary feedwater pump, from the Nuclear Service Water System automatically actuate to its full open position within less than or equal to 10 seconds on a Loss-of-Suction test signal. McGuire specifies 13 seconds.

3.7.1.4

For MODE 1 states: "With one MSIV inoperable but open, POWER OPERATION may continue, provided the inoperable valve is restored to OPERABLE status within 4 hours; otherwise be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours."

Both STS and McGuire require "reduce power to less than or equal to 5% of RATED THERMAL POWER within 2 hours."

4.7.1.4

With respect to MSIV OPERABILITY, Catawba contains the sentence. "The provisions of specification 4.0.4 are not applicable for entry into MODE 3." This exception is not in STS or McGuire.

4.7.3.b.2

States "Each Component Cooling Water System pump starts automatically on a Safety Injection test signal."

McGuire also includes "and Station Blackout test signal."

The licensee stated that "and Station Blackout test signal" will be reviewed for inclusion in the Catawba Technical Specification.

4.7.4.b.2

States "Each Nuclear Service Water System pump starts automatically on a Safety Injection, or Containment Spray, or Phase "B" Isolation test signal."

McGuire requires auto start on Safety Injection and Station Blackout.

The licensee stated that Catawba would be changed to read the same as McGuire.

4.7.6.a

States in part that "At least once per 12 hours by verifying that the control room air temperature is less than or equal to 80°F." McGuire and STS specify 120°F.

4.7.6.e.1

Discusses pressure drops across the combined HEPA and charcoal banks. Catawba specifies 6 inches W. G. while McGuire specifies 5 inches W. G. McGuire includes the pre-filters where as Catawba doesn't.

The licensee indicated that it is revising this section.

4.7.6.f

Catawba states "After each complete or partial replacement of a HEPA filter by verifying that the cleanup system satisfies..."

McGuire states "HEPA filter" instead of "cleanup system."

4.7.6.g

Catawba states "After each complete or partial replacement of a charcoal adsorber bank, by verifying that the cleanup system..."

McGuire states "Charcoal adsorber bank" instead of "cleanup system..."

4.7.7.a

States "...flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 continuous hours with the heaters operating."

McGuire specifies 15 minutes and heaters are not mentioned.