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May 2, 1984

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

Subject: Byron Generating Station Units 1 and 2
Braidwood Generating Station Units 1 and 2
Technical Specification Changes
NRC Docket Nos. 50-454, 50-455, 50-456 and 50-457

Reference (a): July 20, 1983 letter from T. M. Novak to D. L. Farrar.

Dear Mr. Denton:

The purpose of this letter is to propose additional changes to the Byron technical specifications which were published for comment in December, 1983. These changes would revise the allowable out-of-service times for several components from 72 hours to seven days.

Attachment A to this letter contains marked-up copies of Technical Specification pages regarding the out-of-service times for the ECCS subsystems, containment spray systems, spray additive system, containment cooling fans, auxiliary feedwater pumps, component cooling water loops, and the essential service water system. These LCO changes have no significant effect upon plant coremelt frequency. These changes provide additional maintenance flexibility and will reduce significantly the frequency of requests for emergency extension of allowable out-of-service times.

We do not anticipate that longer allowable out-of-service times will result in reduced component availability. These changes are not being proposed to permit slower maintenance. We expect that most maintenance jobs will be completed at the same rate, regardless of the allowable out-of-service time. Occasionally, however, the ability to spend a few extra hours on a particular maintenance activity will result in a better component reliability. Overall, we expect component availability to increase because of this flexibility.

Enclosed is a report titled "Byron Generating Station Limiting Condition for Operation Relaxation Program." This report documents the study which supports our conclusion that increased out-of-service times do not significantly increase plant risk. This study was undertaken as documented in reference (a). The conclusions were reviewed with the NRC staff on April 26, 1984.

ENCLS TO: NRR/CSB, NRR/RSB, NRR/ASB, NRR/ICSB, NRR/PSB
PDR, NTIS, NSIC, LPDR, Acc File
Limited DIST PM-3 SETS
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It is requested that the NRC conduct a timely review of these proposed Technical Specification changes. It seems appropriate that a meeting be scheduled in the near future so that we can respond to Staff questions on the risk study. Ideally, these changes should be included in the Technical Specifications when the initial Byron 1 license is issued. At a minimum, we would like to establish a firm schedule for NRC review and approval.

Please direct any further questions regarding this matter to this office.

One signed original and fifteen copies of this letter, the Attachment, and the enclosure are provided.

Very truly yours,

L. O. DelGeorge

L. O. DelGeorge
Assistant Vice-President

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ATTACHMENT A

1) Section 3.5.2 (page 3/4 5-3)

   Change "72 hours" to "7 days" in Action 3.5.2.a

2) Section 3.6.2 (page 3/4 6-13)

   Change "72 hours" to "7 days" in Action 3.6.2.1

3) Section 3.6.2.2 (page 3/4 6-14)

   Change "72 hours" to "7 days" in Action 3.6.2.2

4) Section 3.6.2.3.c (page 3/4 6-15)

   Change "72 hours" to "7 days" in Action 3.6.2.3.c

   Delete Action Statement a.

5) Section 3.7.12 (page 3/4 7-4)

   Change "72 hours" to "7 days" in Action Statement a.

6) Section 3.7.3 (page 3/4 7-11)

   Change "72 hours" to "7 days" in the Action Statement.

7) Section 3.7.4 (page 3/4 7-12)

   Change "72 hours" to "7 days" in Action Statement a.

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3/4.5.2 ECCS SUBSYSTEMS - $T_{avg} \geq 350°F$

LIMITING CONDITION FOR OPERATION

3.5.2 Two independent Emergency Core Cooling System (ECCS) subsystems shall be OPERABLE with each subsystem comprised of:

a. One OPERABLE centrifugal charging pump,

b. One OPERABLE Safety Injection pump,

c. One OPERABLE RHR heat exchanger,

d. One OPERABLE RHR pump, and

e. An OPERABLE flow path capable of taking suction from the refueling water storage tank on a Safety Injection signal and automatic opening of the containment sump suction valves.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

a. With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within ~~72 hours~~ 7 days or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.7.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected Safety Injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

CONTAINMENT SYSTEMS

SPRAY ADDITIVE SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.2 The Spray Additive System shall be OPERABLE with:

a. A spray additive tank containing a level of between 78.6% (4000 gallons) and 90.3% (4540 gallons) of between 30 and 36% by weight NaOH solution, and

b. Two spray additive eductors each capable of adding NaOH solution from the chemical additive tank to a Containment Spray System pump flow.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With the Spray Additive System inoperable, restore the system to OPERABLE status within ~~72 hours~~ 7 days or be in at least HOT STANDBY within the next 6 hours; restore the Spray Additive System to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.2 The Spray Additive System shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position;

b. At least once per 6 months by:

1) Verifying the contained solution volume in the tank, and

2) Verifying the concentration of the NaOH solution by chemical analysis.

c. At least once per 18 months during shutdown, by verifying that each automatic valve in the flow path actuates to its correct position on a Containment Spray Actuation test signal; and

d. At least once per 5 years by verifying each water flow rate equivalent to 55(+5,-0) gallons per minute for 30% NaOH from the Educator test connections in the Spray Additive System:

1)	CS26A	68	$^{+6}_{-0}$	gpm (Train A), and
2)	CS26B	68	$^{+6}_{-0}$	gpm (Train B).

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3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent Containment Spray Systems shall be OPERABLE with each Spray System capable of taking suction from the RWST and transferring suction to the containment sump.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With one Containment Spray System inoperable, restore the inoperable Spray System to OPERABLE status within ~~72 hours~~ 7 days or be in at least HOT STANDBY within the next 6 hours; restore the inoperable Spray System to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each Containment Spray System shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position;

b. By verifying, that on recirculation flow, each pump develops a discharge pressure of greater than or equal to 265 psig when tested pursuant to Specification 4.0.5;

c. At least once per 18 months during shutdown, by:

1) Verifying that each automatic valve in the flow path actuates to its correct position on a Containment Spray Actuation test signal, and

2) Verifying that each spray pump starts automatically on a Containment Spray Actuation test signal.

d. At least once per 5 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

CONTAINMENT COOLING SYSTEM

LIMITING CONDITIONS FOR OPERATION

3.6.2.3 Two electrically independent systems of containment cooling fans shall be OPERABLE with one fan to each system.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With one system of the above required containment cooling fans inoperable and both Containment Spray Systems OPERABLE, restore the inoperable system of cooling fans to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

Delete

b. With two systems of the above required containment cooling fans inoperable and both Containment Spray Systems OPERABLE, restore at least one system of cooling fans to OPERABLE status within ~~72 hours~~ 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore both above required systems of cooling fans to OPERABLE status within 7 days of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With one system of the above required containment cooling fans inoperable and one Containment Spray System inoperable, restore the inoperable Spray System to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore the inoperable system of containment cooling fans to OPERABLE status within 7 days of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.3 Each system of containment cooling fans shall be demonstrated OPERABLE:

a. At least once per 31 days by:

1) Starting each fan system in slow speed from the control room, and verifying that each fan system operates for at least 15 minutes, and

2) Verifying a cooling water flow rate of greater than or equal to 2660 gpm to each cooler.

b. At least once per 18 months by verifying that each fan system starts automatically on a Safety Injection test signal.

LIMITING CONDITION FOR OPERATION

3.7.1.2 At least two independent steam generator auxiliary feedwater pumps and associated flow paths shall be OPERABLE with:

a. One motor-driven auxiliary feedwater pump capable of being powered from an ESF Bus, and

b. One direct-driven diesel auxiliary feedwater pump capable of being powered from a direct-drive diesel engine and an OPERABLE Diesel Fuel Supply System consisting of a day tank containing a minimum of 420 gallons of fuel.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

a. With one auxiliary feedwater pump inoperable, restore the required auxiliary feedwater pumps to OPERABLE status within ~~72 hours~~ 7 days or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. With both auxiliary feedwater pumps inoperable, be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.2.1 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS by:

1) Verifying that the pump develops a differential pressure of greater than or equal to 1825 psid at a flow of greater than or equal to 85 gpm in the recirculation mode;

3/4.7.3 COMPONENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3 At least two component cooling water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With only one component cooling water loop OPERABLE, restore at least two loops to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.3 At least two component cooling water loops shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) servicing safety-related equipment that is not locked, sealed, or otherwise secured in position is in its correct position; and

b. At least once per 18 months during shutdown, by verifying that:

1) Each automatic valve servicing safety-related equipment actuates to its correct position on a Safety Injection test signal, and

2) Each Component Cooling Water System pump starts automatically on a Safety Injection test signal.

3/4.7.4 ESSENTIAL SERVICE WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.4 At least two independent Essential Service Water Systems, which includes a loop and a cooling tower, shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With only one Essential Service Water System OPERABLE, restore at least two Essential Service Water Systems to OPERABLE status within 7 days ~~72 hours~~ or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With a loss-of-offsite power and with the outside air temperature equal to or less than 40°F, start both essential service water pumps unless already operating.

SURVEILLANCE REQUIREMENTS

4.7.4 At least two Essential Service Water Systems shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) servicing safety-related equipment that is not locked, sealed, or otherwise secured in position is in its correct position; and

b. At least once per 18 months during shutdown, by verifying that:

1) Each automatic valve servicing safety-related equipment or isolating the non-nuclear safety-related portion of the system actuates to its correct position on a Safety Injection test signal, and

2) Each Essential Service Water System pump starts automatically on a Safety Injection test signal.

c. At least once per 31 days, by verifying that each cooling tower fan operates for at least 15 minutes and at least once per 18 months by visually inspecting and verifying no abnormal breakage or degradation of the fill materials in the cooling tower.