ENCLOSURE 1

PROPOSED TECHNICAL SPECIFICATION REVISIONS
TVA BFNP TS 181 SUPPLEMENT 1
BROWNS FERRY NUCLEAR PLANT

UNIT 1
PROPOSED TECHNICAL SPECIFICATIONS

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.4 STANDBY LIQUID CONTROL SYSTEM	4.4 STANDBY LIQUID CONTROL SYSTEM
Applicability Applies to the operating status of the Standby Liquid Control System.	Applicability Applies to the surveillance requirements of the Standby Liquid Control System.
Objective To assure the availability of a system with the capability to shut down the reactor and maintain the shutdown condition without the use of control rods.	Objective To verify the operability of the Standby Liquid Control System.
Specification	Specification
A. Normal System Availability	A. Normal System Availability
1. The standby liquid control system shall be operable at all times when there is fuel in the reactor vessel and the reactor is not in a shutdown condition with all operable control rods fully inserted except as specified in 3.4.B.1.	The operability of the Standby Liquid Control System shall be verified by the performance of the following tests: 1. Verify that, when tested pursuant to Specification 4.12.A, each pump develops a flow of at least 39 gpm against a system head of 1275 psig. 2. At least once per month each pump loop shall be functionally tested. 3. At least once during each operating cycle: a. Check that the setting of the system relief valves is 1425 $\pm$ 75 psig.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.4 STANDBY LIQUID CONTROL SYSTEM	4.4 STANDBY LIQUID CONTROL SYSTEM
	A. Normal System Availability
	b. Manually initiate the system, except explosive valves. Pump boron solution through the recirculation path and back to the Standby Liquid Control Solution Tank. Minimum pump flow rate of 39 gpm

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT

3.5 CORE AND CONTAINMENT COOLING SYSTEMS

Applicability

Applies to the operational status of the core and containment cooling systems.

Objective

To assure the operability of the core and containment cooling systems under all conditions for which this cooling capability is an essential response to the plant abnormalities.

Specification

A. Core Spray System (CSS)

1. The CSS shall be operable:

   (1) prior to reactor startup from a cold condition, or

   (2) when there is irradiated fuel in the vessel and when the reactor vessel pressure is greater than atmospheric pressure, except as specified in Specification 3.5.A.2.

4.5 CORE AND CONTAINMENT COOLING SYSTEMS

Applicability

Applies to the surveillance requirements of the core and containment cooling systems when the corresponding limiting condition for operation is in effect.

Objective

To verify the operability of the core and containment cooling systems under all conditions for which this cooling capability is an essential response to plant abnormalities.

Specification

A. Core Spray System (CSS)

1. Core Spray System Testing.

Item	Frequency
a. Simulated Automatic Actuation test	Once/ Operating Cycle
b. Pump Operability	Once/ month
c. (Deleted)	
d. Verify that, when tested pursuant to Specification 4.12.A each loop delivers at least 6,250 gpm against a system head corresponding to a	

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.5.B Residual Heat Removal System (RHRS) (LPCI and Containment Cooling)	4.5.B. Residual Heat Removal System (RHRS) (LPCI and Containment Cooling)
1. The RHRS shall be operable:	
(1) prior to a reactor startup from a Cold Condition; or	
(2) when there is irradiated fuel in the reactor vessel and when the reactor vessel pressure is greater than atmospheric, except as specified in Specification 3.5.B.2 through 3.5.B.7.	
	1. a. Simulated Automatic Actuation Test — Once/ Operating Cycle
	b. Pump Operability — Once/ month
	c. (Deleted)
	d. When tested in accordance with Specification 4.12.A, each LPCI pump shall deliver at least 9,000 gpm against an indicated system pressure of 125 psig. Two LPCI pumps in the same loop shall deliver 12,000 gpm against an indicated system pressure of 250 psig.
	e. Valves shall be tested in accordance with Specification 4.12.A.
2. With the reactor vessel pressure less than 105 psig, the RHRS may be removed from service (except that two RHR pumps-containment cooling mode and associated heat exchangers must remain operable) for a period not to exceed 24 hours while being drained of suppression chamber quality water and filled with primary coolant quality water provided that during cooldown two loops with one pump per loop or one loop with two pumps, and associated diesel generators, in the core spray system are operable.	2. An air test on the drywell and torus headers and nozzles shall be conducted once/5 years. A water test may be performed on the torus header in lieu of the air test.
3. If one RHR pump (LPCI mode) is inoperable, the reactor may remain in operation for a period not to exceed 7 days provided the remaining RHR pumps (LPCI mode) and both access paths of the RHRS (LPCI mode) and the CSS and the diesel generators remain operable.	3. No additional surveillance required.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.5.D Equipment Area Coolers	4.5.D Equipment Area Coolers
1. The equipment area cooler associated with each RHR pump and the equipment area cooler associated with each set of core spray pumps (A and C or B and D) must be operable at all times when the pump or pumps served by that specific cooler is considered to be operable.	1. Each equipment area cooler is operated in conjunction with the equipment served by that particular cooler; therefore, the equipment area coolers are tested at the same frequency as the pumps which they serve.
2. When an equipment area cooler is not operable, the pump(s) served by that cooler must be considered inoperable for Technical Specification purposes.	
E. High Pressure Coolant Injection System (HPCIS)	E. High Pressure Coolant Injection System (HPCIS)
1. The HPCI system shall be operable:	1. HPCI Subsystem testing shall be performed as follows:
(1) prior to startup from a Cold Shutdown; or	a. Simulated Automatic Actuation Test — Once/operating cycle
(2) whenever there is irradiated fuel in the reactor vessel and the reactor vessel pressure is greater than 122 psig, except as specified in Specification 3.5.E.2.	b. Pump Operability — Once/month
	c. (Deleted)
	d. When tested in accordance with Specification 4.12.A the HPCI pump shall deliver at least 5000 gpm at normal reactor vessel operating pressure.
	e. Valves shall be tested in accordance with Specification 4.12.A.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
E. High Pressure Coolant Injection System (HPCIS)	E. High Pressure Coolant Injection System (HPCIS)
	f. When flow rate tested at equal to or greater than 150 psig steam pressure to the turbine, the HPCI pump shall deliver at least 5000 gpm. This test shall be performed once per operating cycle.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.5.E High Pressure Coolant Injection System (HPCIS)	4.5.E High Pressure Coolant Injection System (HPCIS)
2. If the HPCI system is inoperable, the reactor may remain in operation for a period not to exceed 7 days, provided the ADS, CSS, RHRS (LPCI), and RCICS are operable.	2. No additional surveillance required.
3. If Specification 3.5.E.1 or 3.5.E.2 are not met, an orderly shutdown shall be initiated and the reactor vessel pressure shall be reduced to 122 psig or less within 24 hours.	
F. Reactor Core Isolation Cooling System (RCICS)	F. Reactor Core Isolation Cooling System (RCICS)
1. The RCICS shall be operable:	1. RCIC Subsystem testing shall be performed as follows:
(1) prior to startup from a Cold Condition; or	a. Simulated Automatic Actuation Test — Once/operating cycle
(2) whenever there is irradiated fuel in the reactor vessel and the reactor vessel pressure is above 122 psig, except as specified in 3.5.F.2.	b. Pump Operability — Once/month
	c. (Deleted)
	d. When tested in accordance with Specification 4.12.A the RCIC pump shall deliver at least 600 gpm at normal reactor operating pressure.
	e. Valves shall be tested in accordance with Specification 4.12.A.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.5.F Reactor Core Isolation Cooling System (RCICS)	4.5.F Reactor Core Isolation Cooling System (RCICS)
	f. When flow rate tested at equal to or greater than 150 psig steam pressure to the turbine, the RCIC pump shall deliver at least 600 gpm. This test shall be performed once per operating cycle.
2. If the RCICS is inoperable, the reactor may remain in operation for a period not to exceed 7 days if the HPCIS is operable during such time.	2. No additional surveillance required.
3. If specifications 3.5.F.1 or 3.5.F.2 are not met, an orderly shutdown shall be initiated and the reactor shall be depressurized to less than 122 psig within 24 hours.	

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.5.G Automatic Depressurization System (ADS)	4.5.G Automatic Depressurization System (ADS)
1. Four of the six valves of the Automatic Depressurization System shall be operable: (1) prior to a startup from a Cold Condition, or, (2) whenever there is irradiated fuel in the reactor vessel and the reactor vessel pressure is greater than 105 psig, except as specified in 3.5.G.2 and 3.5.G.3 below.	1. During each operating cycle the following tests shall be performed on the ADS: a. A simulated automatic actuation test shall be performed prior to startup after each refueling outage. Manual surveillance of the relief valves is covered, in 4.6.D.2.
2. If three of the six ADS valves are known to be incapable of automatic operation, the reactor may remain in operation for a period not to exceed 7 days, provided the HPCI system is operable. (Note that the pressure relief function of these valves is assured by section 3.6.D of these specifications and that this specification only applies to the ADS function.) If more than three of the six ADS valves are known to be incapable of automatic operation, an immediate orderly shutdown shall be initiated, with the reactor in a hot shutdown condition in 6 hours and in a cold shutdown condition in the following 18 hours.	2. No additional surveillance required.

4.5 Core and Containment Cooling Systems Surveillance Frequencies

The testing interval for the core and containment cooling systems is based on industry practice, quantitative reliability anaylsis, judgement, and practicality. The core cooling systems have not been designed to be fully testable during operation. For example, in the case of the HPCI, automatic initiation during power operation would result in pumping cold water into the reactor vessel which is not desirable. Complete ADS testing during power operation causes an undesirable loss-of-coolant inventory. To increase the availability of the core and containment cooling system, the components which make up the system; i.e., instrumentation, pumps, valves, etc., are tested frequently. The pumps are also tested each month to assure their operability. A simulated automatic actuation test once each cycle combined with monthly tests of the pumps is deemed to be adequate testing of these systems.

When components and subsystems are out-of-service, overall core and containment cooling reliability is maintained by redundant operable equipment. Out-of-service time is selected as a small fraction of normal surveillance frequency to add further conservatism.

Maximum Average Planar LHGR, LHGR, and MCPR

The MAPLHGR, LHGR, and MCPR shall be checked daily to determine if fuel burnup, or control rod movement has caused changes in power distribution. Since changes due to burnup are slow, and only a few control rods are moved daily, a daily check of power distribution is adequate.

UNIT 2
PROPOSED TECHNICAL SPECIFICATIONS

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.4 STANDBY LIQUID CONTROL SYSTEM	4.4 STANDBY LIQUID CONTROL SYSTEM
Applicability	Applicability
Applies to the operating status of the Standby Liquid Control System.	Applies to the surveillance requirements of the Standby Liquid Control System.
Objective	Objective
To assure the availability of a system with the capability to shut down the reactor and maintain the shutdown condition without the use of control rods.	To verify the operability of the Standby Liquid Control System.
Specification	Specification
A. Normal System Availability	A. Normal System Availability
1. The standby liquid control system shall be operable at all times when there is fuel in the reactor vessel and the reactor is not in a shutdown condition with all operable control rods fully inserted except as specified in 3.4.B.1.	The operability of the Standby Liquid Control System shall be verified by the performance of the following tests: 1. Verify that, when tested pursuant to Specification 4.12.A, each pump develops a flow of at least 39 gpm against a system head of 1275 psig. 2. At least once per month each pump loop shall be functionally tested. 3. At least once during each operating cycle: a. Check that the setting of the system relief valves is 1425 ± 75 psig.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.4 STANDBY LIQUID CONTROL SYSTEM	4.4 STANDBY LIQUID CONTROL SYSTEM
	A. Normal System Availability
	b. Manually initiate the system, except explosive valves. Pump boron solution through the recirculation path and back to the Standby Liquid Control Solution Tank. Minimum pump flow rate of 39 gpm

LIMITING CONDITIONS FOR OPERATION

3.5 CORE AND CONTAINMENT COOLING SYSTEMS

Applicability

Applies to the operational status of the core and containment cooling systems.

Objective

To assure the operability of the core and containment cooling systems under all conditions for which this cooling capability is an essential response to the plant abnormalities.

Specification

A. Core Spray System (CSS)

1. The CSS shall be operable:

   (1) prior to reactor startup from a cold condition, or

   (2) when there is irradiated fuel in the vessel and when the reactor vessel pressure is greater than atmospheric pressure, except as specified in Specification 3.5.A.2.

SURVEILLANCE REQUIREMENT

4.5 CORE AND CONTAINMENT COOLING SYSTEMS

Applicability

Applies to the surveillance requirements of the core and containment cooling systems when the corresponding limiting condition for operation is in effect.

Objective

To verify the operability of the core and containment cooling systems under all conditions for which this cooling capability is an essential response to plant abnormalities.

Specification

A. Core Spray System (CSS)

1. Core Spray System Testing.

Item	Frequency
a. Simulated Automatic Actuation test	Once/ Operating Cycle
b. Pump Operability	Once/ month
c. (Deleted)	
d. Verify that, when tested pursuant to Specification 4.12.A each loop delivers at least 6,250 gpm against a system head corresponding to a	

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.5.B Residual Heat Removal System (RHRS) (LPCI and Containment Cooling)	4.5.B. Residual Heat Removal System (RHRS) (LPCI and Containment Cooling)
1. The RHRS shall be operable:	1. a. Simulated Automatic Actuation Test — Once/Operating Cycle
(1) prior to a reactor startup from a Cold Condition; or	b. Pump Operability — Once/month
(2) when there is irradiated fuel in the reactor vessel and when the reactor vessel pressure is greater than atmospheric, except as specified in Specification 3.5.B.2 through 3.5.B.7.	c. (Deleted)
2. With the reactor vessel pressure less than 105 psig, the RHRS may be removed from service (except that two RHR pumps-containment cooling mode and associated heat exchangers must remain operable) for a period not to exceed 24 hours while being drained of suppression chamber quality water and filled with primary coolant quality water provided that during cooldown two loops with one pump per loop or one loop with two pumps, and associated diesel generators, in the core spray system are operable.	d. When tested in accordance with Specification 4.12.A, each LPCI pump shall deliver at least 9,000 gpm against an indicated system pressure of 125 psig. Two LPCI pumps in the same loop shall deliver 12,000 gpm against an indicated system pressure of 250 psig.
3. If one RHR pump (LPCI mode) is inoperable, the reactor may remain in operation for a period not to exceed 7 days provided the remaining RHR pumps (LPCI mode) and both access paths of the RHRS (LPCI mode) and the CSS and the diesel generators remain operable.	e. Valves shall be tested in accordance with Specification 4.12.A.
	2. An air test on the drywell and torus headers and nozzles shall be conducted once/5 years. A water test may be performed on the torus header in lieu of the air test.
	3. No additional surveillance required.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.5.D Equipment Area Coolers	4.5.D Equipment Area Coolers
1. The equipment area cooler associated with each RHR pump and the equipment area cooler associated with each set of core spray pumps (A and C or B and D) must be operable at all times when the pump or pumps served by that specific cooler is considered to be operable.	1. Each equipment area cooler is operated in conjunction with the equipment served by that particular cooler; therefore, the equipment area coolers are tested at the same frequency as the pumps which they serve.
2. When an equipment area cooler is not operable, the pump(s) served by that cooler must be considered inoperable for Technical Specification purposes.	
E. High Pressure Coolant Injection System (HPCIS)	E. High Pressure Coolant Injection System (HPCIS)
1. The HPCI system shall be operable:	1. HPCI Subsystem testing shall be performed as follows:
(1) prior to startup from a Cold Shutdown; or	a. Simulated Automatic Actuation Test — Once/operating cycle
(2) whenever there is irradiated fuel in the reactor vessel and the reactor vessel pressure is greater than 122 psig, except as specified in Specification 3.5.E.2.	b. Pump Operability — Once/month
	c. (Deleted)
	d. When tested in accordance with Specification 4.12.A the HPCI pump shall deliver at least 5000 gpm at normal reactor vessel operating pressure.
	e. Valves shall be tested in accordance with Specification 4.12.A.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
E. High Pressure Coolant Injection System (HPCIS)	E. High Pressure Coolant Injection System (HPCIS)
	f. When flow rate tested at equal to or greater than 150 psig steam pressure to the turbine, the HPCI pump shall deliver at least 5000 gpm. This test shall be performed once per operating cycle.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.5.E High Pressure Coolant Injection System (HPCIS)	4.5.E High Pressure Coolant Injection System (HPCIS)
2. If the HPCI system is inoperable, the reactor may remain in operation for a period not to exceed 7 days, provided the ADS, CSS, RHRS (LPCI), and RCICS are operable.	2. No additional surveillance required.
3. If Specification 3.5.E.1 or 3.5.E.2 are not met, an orderly shutdown shall be initiated and the reactor vessel pressure shall be reduced to 122 psig or less within 24 hours.	
F. Reactor Core Isolation Cooling System (RCICS)	F. Reactor Core Isolation Cooling System (RCICS)
1. The RCICS shall be operable:	1. RCIC Subsystem testing shall be performed as follows:
(1) prior to startup from a Cold Condition; or	a. Simulated Automatic Actuation Test — Once/operating cycle.
(2) whenever there is irradiated fuel in the reactor vessel and the reactor vessel pressure is above 122 psig, except as specified in 3.5.F.2.	b. Pump Operability — Once/month
	c. (Deleted)
	d. When tested in accordance with Specification 4.12.A the RCIC pump shall deliver at least 600 gpm at normal reactor operating pressure.
	e. Valves shall be tested in accordance with Specification 4.12.A.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.5.F Reactor Core Isolation Cooling System (RCICS)	4.5.F Reactor Core Isolation Cooling System (RCICS)
	f. When flow rate tested at equal to or greater than 150 psig steam pressure to the turbine, the RCIC pump shall deliver at least 600 gpm. This test shall be performed once per operating cycle.
2. If the RCICS is inoperable, the reactor may remain in operation for a period not to exceed 7 days if the HPCIS is operable during such time.	2. No additional surveillance required.
3. If specifications 3.5.F.1 or 3.5.F.2 are not met, an orderly shutdown shall be initiated and the reactor shall be depressurized to less than 122 psig within 24 hours.	

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.5.G Automatic Depressurization System (ADS)	4.5.G Automatic Depressurization System (ADS)
1. Four of the six valves of the Automatic Depressurization System shall be operable: (1) prior to a startup from a Cold Condition, or, (2) whenever there is irradiated fuel in the reactor vessel and the reactor vessel pressure is greater than 105 psig, except as specified in 3.5.G.2 and 3.5.G.3 below.	1. During each operating cycle the following tests shall be performed on the ADS: a. A simulated automatic actuation test shall be performed prior to startup after each refueling outage. Manual surveillance of the relief valves is covered, in 4.6.D.2.
2. If three of the six ADS valves are known to be incapable of automatic operation, the reactor may remain in operation for a period not to exceed 7 days, provided the HPCI system is operable. (Note that the pressure relief function of these valves is assured by section 3.6.D of these specifications and that this specification only applies to the ADS function.) If more than three of the six ADS valves are known to be incapable of automatic operation, an immediate orderly shutdown shall be initiated, with the reactor in a hot shutdown condition in 6 hours and in a cold shutdown condition in the following 18 hours.	2. No additional surveillance required.

4.5 Core and Containment Cooling Systems Surveillance Frequencies

The testing interval for the core and containment cooling systems is based on industry practice, quantitative reliability anaylsis; judgement, and practicality. The core cooling systems have not been designed to be fully testable during operation. For example, in the case of the HPCI, automatic initiation during power operation would result in pumping cold water into the reactor vessel which is not desirable. Complete ADS testing during power operation causes an undesirable loss-of-coolant inventory. To increase the availability of the core and containment cooling system, the components which make up the system; i.e., instrumentation, pumps, valves, etc., are tested frequently. The pumps are also tested each month to assure their operability. A simulated automatic actuation test once each cycle combined with monthly tests of the pumps is deemed to be adequate testing of these systems.

When components and subsystems are out-of-service, overall core and containment cooling reliability is maintained by redundant operable equipment. Out-of-service time is selected as a small fraction of normal surveillance frequency to add further conservatism.

Maximum Average Planar LHGR, LHGR, and MCPR

The MAPLHGR, LHGR, and MCPR shall be checked daily to determine if fuel burnup, or control rod movement has caused changes in power distribution. Since changes due to burnup are slow, and only a few control rods are moved daily, a daily check of power distribution is adequate.

UNIT 3
PROPOSED TECHNICAL SPECIFICATIONS

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.4 STANDBY LIQUID CONTROL SYSTEM	4.4 STANDBY LIQUID CONTROL SYSTEM
Applicability	Applicability
Applies to the operating status of the Standby Liquid Control System.	Applies to the surveillance requirements of the Standby Liquid Control System.
Objective	Objective
To assure the availability of a system with the capability to shut down the reactor and maintain the shutdown condition without the use of control rods.	To verify the operability of the Standby Liquid Control System.
Specification	Specification
A. Normal System Availability	A. Normal System Availability
1. The standby liquid control system shall be operable at all times when there is fuel in the reactor vessel and the reactor is not in a shutdown condition with all operable control rods fully inserted except as specified in 3.4.B.1.	The operability of the Standby Liquid Control System shall be verified by the performance of the following tests: 1. Verify that, when tested pursuant to Specification 4.12.A, each pump develops a flow of at least 39 gpm against a system head of 1275 psig. 2. At least once per month each pump loop shall be functionally tested. 3. At least once during each operating cycle: a. Check that the setting of the system relief valves is 1425 ± 75 psig. b. Manually initiate the system, except explosive valves. Pump boron solution through the

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT

3.5 CORE AND CONTAINMENT COOLING SYSTEMS

Applicability

Applies to the operational status of the core and containment cooling systems.

Objective

To assure the operability of the core and containment cooling systems under all conditions for which this cooling capability is an essential response to the plant abnormalities.

Specification

A. Core Spray System (CSS)

1. The CSS shall be operable:

   (1) prior to reactor startup from a cold condition, or

   (2) when there is irradiated fuel in the vessel and when the reactor vessel pressure is greater than atmospheric pressure, except as specified in Specification 3.5.A.2.

4.5 CORE AND CONTAINMENT COOLING SYSTEMS

Applicability

Applies to the surveillance requirements of the core and containment cooling systems when the corresponding limiting condition for operation is in effect.

Objective

To verify the operability of the core and containment cooling systems under all conditions for which this cooling capability is an essential response to plant abnormalities.

Specification

A. Core Spray System (CSS)

1. Core Spray System Testing.

Item	Frequency
a. Simulated Automatic Actuation test	Once/ Operating Cycle
b. Pump Operability	Once/ month
c. (Deleted)	
d. Verify that, when tested pursuant to Specification 4.12.A each loop delivers at least 6,250 gpm against a system head corresponding to a	

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.5 CORE AND CONTAINMENT COOLING SYSTEMS	4.5 CORE AND CONTAINMENT COOLING SYSTEMS
B. Residual Heal Removal System (RHRS) (LPCI and Containment Cooling)	B. Residual Heat Removal System (RHRS) (LPCI and Containment Cooling)
1. The RHRS shall be operable: (1) prior to a reactor startup from a Cold Condition; or (2) when there is irradiated fuel in the reactor vessel and when the reactor vessel pressure is greater than atmospheric, except as specified in specifications 3.5.B.2, through 3.5.B.7	1. a. Simulated Automatic Actuation Test — Once/ Operating Cycle b. Pump Operability — Once/ month c. (Deleted) d. When tested in accordance with Specification 4.12.A, each LPCI pump shall deliver at least 9,000 gpm against an indicated system pressure of 125 psig. Two LPCI pumps in the same loop shall deliver 15,000 gpm against an indicated system pressure of 200 psig. e. Valves shall be tested in accordance with Specification 4.12.A.
2. With the reactor vessel pressure less than 105 psig, the RHR may be removed from service (except that two RHR pumps-containment cooling mode and associated heat exchangers must remain operable) for a period not to exceed 24 hours while being drained of	2. An air test on the drywell and torus headers and nozzles shall be conducted once/5 years. A water test may be performed on the torus header in lieu of the air test.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.5 CORE AND CONTAINMENT COOLING SYSTEMS	4.5 CORE AND CONTAINMENT COOLING SYSTEMS
E. High Pressure Coolant Injection System (HPCIS)	E. High Pressure Coolant Injection System (HPCIS)
1. The HPCI system shall be operable: (1) prior to startup from a Cold Condition; or (2) whenever there is irradiated fuel in the reactor vessel and the reactor vessel pressure is greater than 122 psig, except as specified in specification 3.5.E.2.	1. HPCI Subsystem testing shall be performed as follows: a. Simulated Automatic Actuation Test — Once/operating cycle b. Pump Operability — Once/month c. (Deleted) d. When tested in accordance with Specification 4.12.A the HPCI pump shall deliver at least 5000 gpm at normal reactor vessel operating pressure. e. Valves shall be tested in accordance with Specification 4.12.A. f. When flow rate tested at equal to or greater than 150 psig steam pressure to the turbine, the HPCI pump shall deliver at least 5000 gpm. This test shall be performed once per operating cycle.
2. If the HPCI system in inoperable, the reactor may remain in operation for a period not to exceed 7 days, provided the ADS, CSS, RHRS (LPCI), and RCICS are operable.	2. No additional surveillance required.
3. If specifications 3.5.E.1 or 3.5.E.2 are not met, an orderly shutdown shall be initiated and the reactor vessle pressure shall be reduced to 122 psig or less within 24 hours.	

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.5 CORE AND CONTAINMENT COOLING SYSTEMS	4.5 CORE AND CONTAINMENT COOLING SYSTEMS
F. Reactor Core Isolation Cooling System (RCICS)	F. Reactor Core Isolation Cooling System (RCICS)
1. The RCICS shall be operable: (1) Prior to startup from a Cold Condition; or (2) whenever there is irradiated fuel in the reactor vessel and the reactor vessel pressure is above 122 psig, except as specified in 3.5.F.2.	1. RCIC Subsystem testing shall be performed as follows: a. Simulated Automatic Actuation Test — Once/operating cycle b. Pump Operability — Once/month c. (Deleted) d. When tested in accordance with Specification 4.12.A the RCIC pump shall deliver at least 600 gpm at normal reactor operating pressure. e. Valves shall be tested in accordance with Specification 4.12.A. f. When flow rate tested at equal to or greater than 150 psig steam pressure to the turbine, the RCIC pump shall deliver at least 600 gpm. This test shall be performed once per operating cycle.
2. If the RCICS is inoperable, the reactor may remain in operation for a period not to exceed 7 days if the HPCIS is operable during such time.	2. No additional surveillance required.
3. If specifications 3.5.F.1 or 3.5.F.2 are not met, an orderly shutdown shall be initiated and the reactor shall be depressurized to less than 105 psig within 24 hours.	

4.5 Core and Containment Cooling Systems Surveillance Frequencies

The testing interval for the core and containment cooling systems is based on industry practice, quantitative reliability anaylsis, judgement, and practicality. The core cooling systems have not been designed to be fully testable during operation. For example, in the case of the HPCI, automatic initiation during power operation would result in pumping cold water into the reactor vessel which is not desirable. Complete ADS testing during power operation causes an undesirable loss-of-coolant inventory. To increase the availability of the core and containment cooling system, the components which make up the system; i.e., instrumentation, pumps, valves, etc., are tested frequently. The pumps are also tested each month to assure their operability. A simulated automatic actuation test once each cycle combined with monthly tests of the pumps is deemed to be adequate testing of these systems.

When components and subsystems are out-of-service, overall core and containment cooling reliability is maintained by redundant operable equipment. Out-of-service time is selected as a small fraction of normal surveillance frequency to add further conservatism.

Maximum Average Planar LHGR, LHGR, and MCPR

The MAPLHGR, LHGR, and MCPR shall be checked daily to determine if fuel burnup, or control rod movement has caused changes in power distribution. Since changes due to burnup are slow, and only a few control rods are moved daily, a daily check of power distribution is adequate.

ENCLOSURE 2

DESCRIPTION AND JUSTIFICATION
TVA BFNP TS 181 SUPPLEMENT 1

Reference: TVA letter from L. M. Mills to H. R. Denton dated November 12, 1982 (TVA BFNP TS 181)

The referenced letter submitted proposed technical specification revisions for implementing the ASME Section XI inservice pump and valve testing program at Browns Ferry. Part of that submittal proposed deletion of the requirement to conduct monthly operability testing of pumps and valves. We were informed by the NRC staff (Browns Ferry Project Manager) that the proposed change would have to be prenoticed as a possible significant hazards consideration. We decided to avoid that situation by submitting additional revisions to reinstate the monthly testing requirement. The specifications submitted do that.