ATTACHMENT 2

TECHNICAL SPECIFICATION PAGES WITH PEN AND INK CHANGES

LICENSE AMENDMENT APPLICATION 93-03, NLR-N93015
STI/AOT EXTENSIONS FOR ISOLATION ACTUATION INSTRUMENTATION
FACILITY OPERATING LICENSE NPF-57
HOPE CREEK GENERATING STATION
DOCKET NO. 50-354

The following Technical Specifications have been revised to reflect the proposed changes:

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3/4.3.2 ISOLATION ACTUATION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.2 The isolation actuation instrumentation channels shown in Table 3.3.2-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.2-2 and with ISOLATION SYSTEM RESPONSE TIME as shown in Table 3.3.2-3.

APPLICABILITY: As shown in Table 3.3.2-1.

ACTION:

a. With an isolation actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.2-2, declare the channel inoperable until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the Trip Setpoint value.

INSERT A

~~b. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for one trip system, place the inoperable channel(s) and/or that trip system in the tripped condition* within one hour. The provisions of Specification 3.0.4 are not applicable.~~

~~c. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for both trip systems, place at least one trip system** in the tripped condition within one hour and take the ACTION required by Table 3.3.2-1.~~

*An inoperable channel need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, the inoperable channel shall be restored to OPERABLE status within 2 hours or the ACTION required by Table 3.3.2-1 for that Trip Function shall be taken.

~~**The trip system need not be placed in the tripped condition if this would cause the Trip Function to occur. When a trip system can be placed in the tripped condition without causing the Trip Function to occur, place the trip system with the most inoperable channels in the tripped condition; if both systems have the same number of inoperable channels, place either trip system in the tripped condition.~~

TABLE 3.3.2-1

ISOLATION ACTUATION INSTRUMENTATION

TRIP FUNCTION	VALVE ACTUATION GROUPS OPERATED BY SIGNAL (d)	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (g)	APPLICABLE OPERATIONAL CONDITION	ACTION
1. PRIMARY CONTAINMENT ISOLATION				
a. Reactor Vessel Water Level				
1) Low Low, Level 2	1, 2, 8, 9, 12, 13, 14, 15, 17, 18	2	1, 2, 3	20
2) Low Low Low, Level 1	10, 11, 15, 16	2	1, 2, 3	20
b. Drywell Pressure - High	1, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18	2 (j)	1, 2, 3	20
c. Reactor Building Exhaust Radiation - High	1, 8, 9, 12 13, 14, 15, 17, 18	3	1, 2, 3	28
d. Manual Initiation	1, 8, 9, 10 11, 12, 13, 14, 15, 16, 17, 18	1	1, 2, 3	24
2. SECONDARY CONTAINMENT ISOLATION				
a. Reactor Vessel Water Level - Low Low, Level 2	19(c)	2	1, 2, 3 and *	26
b. Drywell Pressure - High	19(c)	2	1, 2, 3	26
c. Refueling Floor Exhaust Radiation - High	19(c)	3	1, 2, 3 and *	29
d. Reactor Building Exhaust Radiation - High	19(c)	3	1, 2, 3 and *	28
e. Manual Initiation	19(c)	1	1, 2, 3 and *	26

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

TRIP FUNCTION	VALVE ACTUATION GROUPS OPERATED BY SIGNAL(d)	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM(a)	APPLICABLE OPERATIONAL CONDITION	ACTION
7. RHR SYSTEM SHUTDOWN COOLING MODE ISOLATION				
a. Reactor Vessel Water Level - Low, Level 3	3	2/Valve(e)	1, 2, 3	27
b. Reactor Vessel (RHR Cut-in Permissive) Pressure - High	3	2/Valve(e)	1, 2, 3	27
c. Manual Initiation	3	1/Valve(e)	1, 2, 3	25

(j)

TABLE 3.3.2-1 (Continued)

NOTES

* When handling irradiated fuel in the secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

** When any turbine stop valve is greater than 90% open and/or when the key-locked bypass switch is in the Norm position.

\# Refer to Specification 3.1.5 for applicability.

\#\# The hydrogen water chemistry (HWC) system shall not be placed in service until reactor power reaches 20% of RATED THERMAL POWER. After reaching 20% of RATED THERMAL POWER, and prior to operating the HWC system, the normal full power background radiation level and associated trip setpoints may be increased to levels previously measured during full power operation with hydrogen injection. Prior to decreasing below 20% of RATED THERMAL POWER and after the HWC system has been shutoff, the background level and associated setpoint shall be returned to the normal full power values. If a power reduction event occurs so that the reactor power is below 20% of RATED THERMAL POWER without the required setpoint change, control rod motion shall be suspended (except for scram or other emergency actions) until the necessary setpoint adjustment is made.

(a) A channel may be placed in an inoperable status for up to 6 hours for required surveillance without placing the trip system in the tripped condition provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.

(b) Also trips and isolates the mechanical vacuum pumps.

(c) Also starts the Filtration, Recirculation and Ventilation System (FRVS).

(d) Refer to Table 3.3.2-1 table notation for the listing of which valves in an actuation group are closed by a particular isolation signal. Refer to Tables 3.6.3-1 and 3.6.5.2-1 for the listings of all valves within an actuation group.

(e) Sensors arranged per valve group, not per trip system.

(f) Closes only RWCU system isolation valve(s) HV-F001 and HV-F004.

(g) Requires system steam supply pressure-low coincident with drywell pressure-high to close turbine exhaust vacuum breaker valves.

(h) Manual isolation closes HV-F008 only, and only following manual or automatic initiation of the RCIC system.

(i) Manual isolation closes HV-F003 and HV-F042 only, and only following manual or automatic initiation of the HPCI system.

(j) Trip functions common to RPS instrumentation.

TABLE 4.3.2.1-1

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
1. PRIMARY CONTAINMENT ISOLATION				
a. Reactor Vessel Water Level -				
1) Low Low, Level 2	S	Q M	R	1, 2, 3
2) Low Low Low, Level 1	S	Q M	R	1, 2, 3
b. Drywell Pressure - High	S	Q M	R	1, 2, 3
c. Reactor Building Exhaust Radiation - High	S	Q M	R	1, 2, 3
d. Manual Initiation	NA	Q M(a)	NA	1, 2, 3
2. SECONDARY CONTAINMENT ISOLATION				
a. Reactor Vessel Water Level - Low Low, Level 2	S	Q M	R	1, 2, 3 and *
b. Drywell Pressure - High	S	Q M	R	1, 2, 3
c. Refueling Floor Exhaust Radiation - High	S	Q M	R	1, 2, 3 and *
d. Reactor Building Exhaust Radiation - High	S	Q M	R	1, 2, 3 and *
e. Manual Initiation	NA	Q M(a)	NA	1, 2, 3 and *
3. MAIN STEAM LINE ISOLATION				
a. Reactor Vessel Water Level - Low Low Low, Level 1	S	Q M	R	1, 2, 3
b. Main Steam Line Radiation - High, High	S	Q M	R	1, 2, 3
c. Main Steam Line Pressure - Low	S	Q M	R	1
d. Main Steam Line Flow - High	S	Q M	R	1, 2, 3

TABLE 4.3.2.1-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
MAIN STEAM LINE ISOLATION (Continued)				
e. Condenser Vacuum - Low	S	Q M	R	1, 2**, 3**
f. Main Steam Line Tunnel Temperature - High	NA	Q M	R	1, 2, 3
g. Manual Initiation	NA	Q M(a)	NA	1, 2, 3
4. REACTOR WATER CLEANUP SYSTEM ISOLATION				
a. RWCU Δ Flow - High	S	Q M	R	1, 2, 3
b. RWCU Δ Flow - High, Timer	NA	Q M	R	1, 2, 3
c. RWCU Area Temperature - High	NA	Q M	R	1, 2, 3
d. RWCU Area Ventilation Δ Temperature - High	NA	Q M	R	1, 2, 3
e. SLCS Initiation	NA	Q M(b)	NA	1, 2, 5#
f. Reactor Vessel Water Level - Low Low, Level 2	S	Q M	R	1, 2, 3
g. Manual Initiation	NA	Q M(a)	NA	1, 2, 3
5. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION				
a. RCIC Steam Line Δ Pressure (Flow) - High	NA	Q M	R	1, 2, 3
b. RCIC Steam Line Δ Pressure (Flow) - High, Timer	NA	Q M	R	1, 2, 3
c. RCIC Steam Supply Pressure - Low	NA	Q M	R	1, 2, 3
d. RCIC Turbine Exhaust Diaphragm Pressure - High	NA	Q M	R	1, 2, 3

TABLE 4.3.2.1-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION (Continued)				
e. RCIC Pump Room Temperature - High	NA	Q M	R	1, 2, 3
f. RCIC Pump Room Ventilation Ducts Δ Temperature - High	NA	Q M	R	1, 2, 3
g. RCIC Pipe Routing Area Temperature - High	NA	Q M	R	1, 2, 3
h. RCIC Torus Compartment Temperature -High	NA	Q M	R	1, 2, 3
i. Drywell Pressure - High	S	Q M	R	1, 2, 3
j. Manual Initiation	NA	R	NA	1, 2, 3
6. HIGH PRESSURE COOLANT INJECTION SYSTEM ISOLATION				
a. HPCI Steam Line Δ Pressure (Flow) - High	NA	Q M	R	1, 2, 3
b. HPCI Steam Line Δ Pressure (Flow) - High, Timer	NA	Q M	R	1, 2, 3
c. HPCI Steam Supply Pressure - Low	NA	Q M	R	1, 2, 3
d. HPCI Turbine Exhaust Diaphragm Pressure - High	NA	Q M	R	1, 2, 3
e. HPCI Pump Room Temperature - High	NA	Q M	R	1, 2, 3
f. HPCI Pump Room Ventilation Ducts Δ Temperature - High	NA	Q M	R	1, 2, 3
g. HPCI Pipe Routing Area Temperature - High	NA	Q M	R	1, 2, 3

TABLE 4.3.2.1-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
HIGH PRESSURE COOLANT INJECTION SYSTEM ISOLATION (Continued)				
h. HPCI Torus Compartment Temperature - High	NA	Q ~~M~~	R	1, 2, 3
i. Drywell Pressure - High	NA	Q ~~M~~	R	1, 2, 3
j. Manual Initiation	NA	R	NA	1, 2, 3
7. RHR SYSTEM SHUTDOWN COOLING MODE ISOLATION				
a. Reactor Vessel Water Level - Low, Level 3	S	Q ~~M~~	R	1, 2, 3
b. Reactor Vessel (RHR Cut-in Permissive) Pressure - High	NA	Q ~~M~~	R	1, 2, 3
c. Manual Initiation	NA	Q ~~M~~(a)	NA	1, 2, 3

* When handling irradiated fuel in the secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

** When any turbine stop valve is greater than 90% open and/or when the key-locked bypass switch is in the Norm position.

Refer to Specification 3.1.5 for applicability.

(a) Manual initiation switches shall be tested at least once per 18 months during shutdown. All other circuitry associated with manual initiation shall receive a CHANNEL FUNCTIONAL TEST at least once per ~~31~~ 92 days as part of circuitry required to be tested for automatic system isolation.

(b) Each train or logic chanrel shall be tested at least every other ~~31~~ 92 days.

3/4.3.2 ISOLATION ACTUATION INSTRUMENTATION

INSERT B

This specification ensures the effectiveness of the instrumentation used to mitigate the consequences of accidents by prescribing the OPERABILITY trip setpoints and response times for isolation of the reactor systems. When necessary, one channel may be inoperable for brief intervals to conduct required surveillance. Some of the trip settings may have tolerances explicitly stated where both the high and low values are critical and may have a substantial effect on safety. The setpoints of other instrumentation, where only the high or low end of the setting have a direct bearing on safety, are established at a level away from the normal operating range to prevent inadvertent actuation of the systems involved.

Except for the MSIVs, the safety analysis does not address individual sensor response times or the response times of the logic systems to which the sensors are connected. For D.C. operated valves, a 3 second delay is assumed before the valve starts to move. For A.C. operated valves, it is assumed that the A.C. power supply is lost and is restored by startup of the emergency diesel generators. In this event, a time of 13 seconds is assumed before the valve starts to move. In addition to the pipe break, the failure of the D.C. operated valve is assumed; thus the signal delay (sensor response) is concurrent with the 10 second diesel startup. The safety analysis considers an allowable inventory loss in each case which in turn determines the valve speed in conjunction with the 13 second delay. It follows that checking the valve speeds and the 13 second time for emergency power establishment will establish the response time for the isolation functions.

Operation with a trip set less conservative than its Trip Setpoint but within its specified Allowable Value is acceptable on the basis that the difference between each Trip Setpoint and the Allowable Value is an allowance for instrument drift specifically allocated for each trip in the safety analyses.

3/4.3.3 EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

The emergency core cooling system actuation instrumentation is provided to initiate actions to mitigate the consequences of accidents that are beyond the ability of the operator to control. This specification provides the OPERABILITY requirements, trip setpoints and response times that will ensure effectiveness of the systems to provide the design protection. Although the instruments are listed by system, in some cases the same instrument may be used to send the actuation signal to more than one system at the same time.

Operation with a trip set less conservative than its Trip Setpoint but within its specified Allowable Value is acceptable on the basis that the difference between each Trip Setpoint and the Allowable Value is an allowance for instrument drift specifically allocated for each trip in the safety analyses.