Proposed Change RTS-171
to the
Duane Arnold Energy Center
Technical Specifications

The holders of license DPR-49 for the Duane Arnold Energy Center propose to amend Appendix A (Technical Specifications) to said license by deleting current pages and replacing them with attached, new pages. A List of the Affected Pages is given below.

The proposed change is required to reflect DAEC compliance with NUREG-0737, Item II.K.3.18.

The Automatic Depressurization System (ADS) is initiated upon concurrent signals of high drywell pressure, low reactor water level, and a core spray pump or a RHR pump running. This ADS logic modification will eliminate the high drywell pressure permissive and will provide the capability to manually inhibit automatic depressurization.

LIST OF AFFECTED PAGES

3.2-8
3.2-10
3.2-11
3.2-27
3.2-33

TABLE 3.2-B

INSTRUMENTATION THAT INITIATES OR CONTROLS THE CORE AND CONTAINMENT COOLING SYSTEMS

Minimum No. of Operable Instrument Channels Per Trip System (1)	Trip Function	Trip Level Setting	Number of Instrument Channels Provided by Design	Remarks
2	Reactor Low-Low Water Level	$\geq$ + 119.5 in. indicated level (4)	4 HPCI & RCIC Instrument Channels	Initiates HPCI & RCIC
2	Reactor Low-Low-Low Water Level	$\geq$ + 18.5 in. indicated level (4)	4 Core Spray & RHR Instrument Channels 4 ADS Instrument Channels	1. In conjunction with Low Reactor Pressure initiates Core Spray and LPCI 2. In conjunction with confirmatory low level, 120 second time delay and LPCI or Core Spray pump interlock initiates Auto Blowdown (ADS) 3. Initiates starting of Diesel Generator
2	Reactor High Water Level	$\leq$ + 211 in. indicated level (4)	2 Instrument Channels	Trips HPCI and RCIC turbines

TABLE 3.2-B (Continued)

INSTRUMENTATION THAT INITIATES OR CONTROLS THE CORE AND CONTAINMENT COOLING SYSTEMS

Minimum No. of Operable Instrument Channels Per Trip System (1)	Trip Function	Trip Level Setting	Number of Instrument Channels Provided by Design	Remarks
1	Reactor Low Pressure	p $\leq$ 135 psig	2 Instrument Channels	In conjunction with PCIS signal permits closure of RHR (LPCI) injection valves
2	Reactor Low Pressure	$\geq$ 900 psig	4 Instrument Channels	Prevents actuation of LPCI break detection circuit (1 Recirc Pump Running)
1	Core Spray Pump Start Timer	5 sec	2 timers	In conjunction with loss of power initiates the starting of CSCS pumps.
1	LPCI Pump Start Timer	10 sec 15 sec	2 timers 2 timers	In conjunction with loss of power initiates the starting of LPCI pumps.

TABLE 3.2-B (Continued)

INSTRUMENTATION THAT INITIATES OR CONTROLS THE CORE AND CONTAINMENT COOLING SYSTEMS

Minimum No. of Operable Instrument Channels Per Trip System (1)	Trip Function	Trip Level Setting	Number of Instrument Channels Provided by Design	Remarks
1	Auto Blowdown Timer	120 sec ± sec	2 timers	In conjunction with Low Reactor Water Level and LPCI or Core Spray Pump running interlock, initiates Auto Blowdown
2	RHR (LPCI) Pump Discharge Pressure Interlock	125±25 psig	4 channels	Defers ADS actuation pending confirmation of Low Pressure core cooling system operation (LPCI or Core Spray Pump running interlock)
2	Core Spray Pump Discharge Pressure Interlock	145±20 psig	4 channels	" "
1	RHR (LPCI) Trip System bus power monitor	Not applicable (6)	2 Inst. Channels	Relay which continuously monitors availability of power to logic systems and annunciates upon loss of power
1	Core Spray Trip System bus power monitor	Not applicable (6)		" "

TABLE 4.2-B (Continued)

MINIMUM TEST AND CALIBRATION FREQUENCY FOR CSCS

Logic System Functional Test (4) (6)	Calibration Frequency(9)
1) Core Spray Subsystem	Once/6 months
2) Low Pressure Coolant Injection Subsystem	Once/6 months
3) Containment Spray Subsystem	Once/6 months
4) HPCI Subsystem	Once/6 months
5) HPCI Subsystem Auto Isolation	Once/6 months
6) ADS Subsystem (10)	Once/6 months
7) RCIC Subsystem Auto Isolation	Once/6 months
8) Area Cooling for Safeguard System	Once/6 months
9) Low-Low Set Function	Once/6 months

These instrument channels will be calibrated using simulated electrical signals.

4. Simulated automatic actuation shall be performed once each operating cycle. Where possible, all logic system functional tests will be performed using the test jacks.

5. Reactor low water level, high drywell pressure and high radiation main steam line tunnel are also included on Table 4.1-2.

6. The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

7. These signals are not PCIS trip signals but isolate the Reactor Water Cleanup system only.

8. This instrumentation is excepted from the functional test definition. The functional test will consist of comparing the analog signal of the active thermocouple element feeding the isolation logic to a redundant thermocouple element.

9. Functional tests and calibrations are not required on the part of the system that is not required to be operable or is tripped. Functional tests shall be performed prior to returning the system to an operable status with a frequency not less than once per month. Calibrations shall be performed prior to returning the system to an operable status with a frequency not less than those defined in the applicable table. However, if maintenance has been performed on those components, functional tests and calibration shall be performed prior to returning to service.

10. A functional test shall be performed for the ADS manual inhibit switches as part of the ADS subsystem tests.