

PROPOSED CHANGE RTS-185 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 the current pages and replacing them with the attached, new pages. A list of the affected pages is provided below.

The purpose of this proposed change is to:

- a. Delete the requirement of Specification 3.7.A.9 which limits the time which certain containment vent/purge valves may be open and replacing it with the requirement that vent/purge valves may only be opened for inerting, de-inerting, testing, or pressure control. Specification 3.7.A.9 was added to the Technical Specifications by Amendment 100 to reduce the probability of a DBA/LOCA occurring while the vent/purge valves are open, possibly resulting in an uncontrolled release to the environs. At the time of Amendment 100, the NRC had not completed its evaluation of the DAEC vent/purge valves' capability to close against DBA/LOCA pressures. Since that time, the NRC has determined that the DAEC valves, as modified, are capable of closing against DBA/LOCA pressures. In addition, the DAEC is modifying its Standby Gas Treatment System (SGTS) to provide overpressure protection. This modification will protect both trains of SGTS against the pressure pulse and moisture resulting from a DBA/LOCA postulated to occur while the vent/purge valves are open. Specification 3.7.A.10 provides reporting requirements if Specification 3.7.A.9 cannot be met. The revised 3.7.A.9 makes 3.7.A.10 no longer applicable and it is, therefore, being deleted.
- b. Require periodic verification that the DAEC vent/purge valves are limited to a maximum opening angle to 30 degrees by adding Note 5 to Table 3.7-2.

LIST OF AFFECTED PAGES

3.7-14a
3.7-22
3.7-23
3.7-24
3.7-48

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LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
8. If the specifications of 3.7.A.1 through 3.7.A.5 cannot be met, an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition within 24 hours.	
9. <u>Purging</u> Containment vent/purge valves (CV-4300, CV-4301, CV-4302, CV-4303, CV-4306, CV-4307, and CV-4308) may not be opened so as to create a flow path from the primary containment while primary containment is required except for inerting, de-inerting, testing, or pressure control.	

TABLE 3.7-2

CONTAINMENT ISOLATION VALVES
SUBJECT TO TYPE C TEST REQUIREMENTS

<u>PENETRATION #</u>	<u>SYSTEM</u>	<u>BOUNDARY VALVES</u>
7A	Main Steam Line	CV-4412 ⁴ , 4413
7B	Main Steam Line	CV-4415 ⁴ , 4416
7C	Main Steam Line	CV-4418 ⁴ , 4419
7D	Main Steam Line	CV-4420 ⁴ , 4421
8	Main Steam Line Drain	MO-4424
9A	Feedwater & HPCI Feed	V-14-3
9A ²	Feedwater & HPCI Feed	MO-4441, MO-2312
9B	Feedwater	V-14-1
9B ²	Feedwater & RCIC Feed & RWCU Return	MO-2740, MO-4442, MO-2512
10	RCIC Condensate Return	CV-2411
10	Steam to RCIC Turbine	MO-2401
11	Steam to HPCI Turbine	MO-2239
11	HPCI Condensate Return	CV-2212
15	RWCU Supply	MO-2700, MO-2701
16A	Core Spray Pump Discharge	MO-2115, MO-2117
16B	Core Spray Pump Discharge	MO-2135, MO-2137
19	Drywell Floor Drain Discharge	CV-3704, CV-3705
20	Demineralized Water Supply	V-09-65, V-09-111
21	Service Air Supply	V-30-287, Blind Flange
22, 229	Containment Compressor Discharge	CV-4371A, CV-4371C, V-43-214
23A ³ , B ³	Well Cooling Water Supply	CV-5718A, CV-5718B, CV-5719A, CV-5719B,
24A ³ , B ³	Well Cooling Water Return	CV-5704A, CV-5704B, CV-5703A, CV-5703B,
25	Drywell Purge Outlet	CV-4302 ^{4,5} , CV-4303 ⁵ , CV-4310
26, 220	Drywell and Torus Purge Supply	CV-4306 ⁵ , CV-4307 ^{4,5} , CV-4308 ^{4,5}
26, 220	Drywell and Torus Nitrogen Makeup	CV-4311, CV-4312, CV-4313

TABLE 3.7-2 (Continued)

CONTAINMENT ISOLATION VALVES
SUBJECT TO TYPE C TEST REQUIREMENTS

<u>PENETRATION #</u>	<u>SYSTEM</u>	<u>BOUNDARY VALVES</u>
32D	Containment Compressor Suction	CV-4378A, CV-4378B
32E	Recirc Pump "A" Seal Purge	V-17-96, CV-1804B
32F	Recirc Pump "B" Seal Purge	V-17-83, CV-1804A
35A,B,C,D	T.I.P Drives	T.I.P Ball Valves and Check Valve on X-35A
36 ¹	CRD Return	V-17-53, V-17-52
39A	Containment Spray/CAD Supply	SV-4332A, SV-4332B
39B	Containment Spray/CAD Supply	SV-4331A, SV-4331B
40D	Post-Accident Sampling/Jet Pump Sample	SV-4594A, SV-4594B
41	Recirc Loop Sample	CV-4639 ⁴ , CV-4640
42	Standby Liquid Control	V-26-8, V-26-9
46E	O ₂ Analyzer	SV-8105B, SV-8106B
48	Drywell Equipment Drain Discharge	CV-3728, CV-3729
50B	O ₂ Analyzer	SV-8101A, SV-8102A,
50E	O ₂ Analyzer	SV-8103A, SV-8104A,
50D	O ₂ Analyzer	SV-8105A, SV-8106A
54 ³	Reactor Building Closed Cooling Water Return	MO-4841A
55 ³	Reactor Building Closed Cooling Water Supply	MO-4841B
56C	O ₂ Analyzer	SV-8101B, SV-8102B,
56D	O ₂ Analyzer	SV-8103B, SV-8104B
205	Torus Purge Outlet	CV-4300 ^{4,5} , CV-4301 ⁵ , CV-4309
211A	Torus Spray/CAD Supply	SV-4333A SV-4333B
211B	Torus Spray/CAD Supply	SV-4334A SV-4334B
212 ¹	RCIC Turbine Exhaust	V-24-8 ⁴ , V-24-23 V-24-46, V-24-47
214 ¹	HPCI Turbine Exhaust	V-22-16, V-22-17 ⁴ V-22-63, V-22-64

NOTES TO TABLE 3.7-2

¹Test volume is filled with demineralized water then pressurized to 54 psig with air or nitrogen for test. For all other penetrations (except 7A-D), test volumes are pressurized to 54 psig with air or nitrogen for test.

²MO-4441, MO-4442 will be remote manually closed.

³In accordance with 10 CFR 50, Appendix A, General Design Criterion 57, the redundant barriers are a single isolation valve outside containment and a closed system inside. Testing of the single isolation valve only is required.

⁴Tested in reverse direction.

⁵During Type C testing, it shall be verified that the mechanical modification which limits the maximum opening angle is intact.

The main steam line isolation valves are functionally tested on a more frequent interval to establish a high degree of reliability.

The containment is penetrated by a large number of small diameter instrument lines. The excess flow check valves in these lines shall be tested once each operating cycle.

Containment vent/purge valves (CV-4300, CV-4301, CV-4302, CV-4303, CV-4306, CV-4307, and CV-4308) have been mechanically modified to limit the maximum opening angle to 30 degrees. This has been done to ensure these valves are able to close against the maximum differential pressure expected to occur during a design basis accident.