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10CFR50.55a

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U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Dresden Nuclear Power Station, Units 2 and 3
Facility Operating License Nos. DPR-19 and DPR-25
Docket Nos. 50-237 and 50-249

Subject: Submittal of Proposed Alternatives and Reliefs to the Requirements of 10 CFR 50.55a Concerning the Fourth Ten-Year Interval Inservice Testing Program

Attached for your review and approval are proposed code alternatives and reliefs in accordance with 10 CFR 50.55a, "Codes and standards," associated with the fourth ten-year interval Inservice Testing (IST) Program for Dresden Nuclear Power Station (DNPS). Based on a start date of November 1, 2003 for the fourth interval, the DNPS IST Program is required by 10 CFR 50.55a(f)(4) to comply with the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, OM Code (1998 Edition Through 2000 Addenda).

The DNPS third 120-month interval pump and valve IST Program was originally scheduled to be in effect from March 1, 1992 to February 28, 2002. Paragraph IWA-2430(e) of ASME Section XI allows the 120-month inservice testing interval to be extended for a period of time equivalent to the duration a unit is out of service continuously for six months or more. During the D2R14 refueling outage Unit 2 was shut down for 325 days and during the D3R13 refueling outage Unit 3 was shut down for 245 days. Accordingly, the DNPS IST testing interval was extended 245 days. In addition, Paragraph IWA-2430(d) of ASME Section XI allows the 120-month inservice testing interval to be extended by one year. The addition of 1 year and 245 days to the third 120-month testing interval changed the test interval end date from February 28, 2002 to October 31, 2003.

In keeping with the overall pattern of ten-year testing intervals, the fourth interval will be decreased by one year to compensate for the 11 year long third interval. Therefore, the DNPS fourth 120-month interval pump and valve IST Program will be in effect from November 1, 2003, to October 31, 2012.

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We request your review and approval of the enclosed alternatives and reliefs by October 1, 2003, which is thirty days prior to beginning of fourth ten-year interval.

Should you have any questions concerning this summary please contact Jeff Hansen, Regulatory Assurance Manager at 815-416-2800.

Respectfully,

R. J. Hovey
Site Vice President
Dresden Nuclear Power Station

Attachment: Dresden Nuclear Power Station Proposed Alternatives and Relief Requests Fourth Ten-Year Interval

cc: NRC Regional Administrator, Region III
NRC Senior Resident Inspector, Dresden Nuclear Power Station

ATTACHMENT 1

DRESDEN NUCLEAR POWER STATION
PROPOSED ALTERNATIVES AND RELIEF REQUESTS
FOURTH TEN-YEAR INTERVAL

PROPOSED ALTERNATIVES

RV-02A

PROPOSED RELIEFS

RV-23H
RV-57A

10 CFR 50.55a Request Number RV-02A

This is a proposed alternative in accordance with 10 CFR 50.55a(a)(3)(i). This alternative provides an acceptable level of quality and safety.

1. ASME Code Components Affected

Valve	Size	Category	Class	P&ID/ Coordinate	Function
2-0203-3A	6.0	B/C	1	12-1/7E	Target Rock Relief/Safety Valve
2-0203-3B	8.0	B/C	1	12-1/7D	Electromatic Relief Valve
2-0203-3C	8.0	B/C	1	12-1/7C	Electromatic Relief Valve
2-0203-3D	8.0	B/C	1	12-1/7B	Electromatic Relief Valve
2-0203-3E	8.0	B/C	1	12-1/6D	Electromatic Relief Valve
3-0203-3A	6.0	B/C	1	345-1/7E	Target Rock Relief/Safety Valve
3-0203-3B	8.0	B/C	1	345-1/7D	Electromatic Relief Valve
3-0203-3C	8.0	B/C	1	345-1/7C	Electromatic Relief Valve
3-0203-3D	8.0	B/C	1	345-1/7B	Electromatic Relief Valve
3-0203-3E	8.0	B/C	1	345-1/6D	Electromatic Relief Valve

2. Applicable Code Edition and Addenda

ASME OM Code 1998 Edition through 2000 Addenda

3. Applicable Code Requirement

ISTC-5114(b), "Valves with reference stroke times of less than or equal to 10 sec shall exhibit no more than +/- 50% change in stroke time when compared to the reference value."

4. Reason for Request

This is a new requirement in the OM code governing the IST Program during the 4th interval. A direct method to stroke time the ADS valves is not available since the control room indication only indicates if the solenoid valve is energized, and not the actual valve disc position. An alternate indirect method to stroke time the ADS valves is available which includes measuring the time from the initiation signal for the valve to the acoustic monitoring detection on the tail pipe.

Using this indirect method of timing, the maximum limiting stroke time for these valves is 3.5 seconds. The value was determined by calculating the average stroke time of the valves when known to be in good condition. The average stroke time is considered a reference value for all five valves to which the acceptance criteria of ISTC-5114(b) is added along with one second for operator reaction time.

The acceptance criteria for power operated valves with stroke times less than or equal to 10 seconds is +/- 50% of the reference value. For this case, the average value was determined to be 1.696 seconds. Therefore the maximum allowable stroke time is (1.696 X 1.5) + 1 = 3.5 seconds. Due to the rapid actuation of these valves and the inaccuracies associated with timing the acoustic monitor actuation, a low end acceptance criteria (- 50%) is not practical. Based on this conclusion, a limiting value will only apply to the upper end (+ 50 %).

Establishment of a 2 minimum limiting stroke time would not provide adequate margin for operator reaction time, given the historical range of stroke times for these valves. The use of 3.5 seconds as the limiting stroke time considers valve stroke time test history and the accuracy of the timing method used to gather the test data.

5. Proposed Alternative and Basis for Use

Stroke time test by timing the interval between energizing the pilot valve and acoustic monitoring detection on the tail pipe. The use of 3.5 seconds as the limiting stroke provides an acceptable level of quality and safety for these fast acting valves.

6. Duration of Proposed Alternative

This proposed alternative will be utilized for the entire 4th 120 month interval.

7. Precedents

Letter from U. S. NRC to Mr. George J. Beck (Philadelphia Electric Company), "Inservice Testing Program for Pumps and Valves for Limerick Generating Station, Units 1 and 2," dated March 5, 1991.

10 CFR 50.55a Request Number RV-23H

Relief is requested in accordance with 10 CFR 50.55a(a)(f)(iii), Inservice Testing Impracticality

1. ASME Code Components Affected

Valve	Size	Category	Class	P&ID/ Coordinate	Function
2-2301-32	1"	B	2	51/C7	High Pressure Coolant Injection (HPCI) Drain Pot Solenoid
2-2301-32	1"	B	2	374/C7	HPCI Drain Pot Solenoid

2. Applicable Code Edition and Addenda

ASME OM Code 1998 Edition through 2000 Addenda

3. Applicable Code Requirement

ISTC-5150, Solenoid Valve Stroke Testing

4. Reason for Request

A Relief was requested in 1996 by DNPS and granted by the NRC for the 3rd interval due to impracticality of compliance. Therefore, this relief request is being re-submitted for the fourth interval to comply with the current OM Code. These valves function as a backup to the exhaust line drain pot steam trap. During normal operation of the turbine using high quality steam, the drain path from the drain pot to the torus via the steam trap is adequate to remove condensate from the turbine exhaust line. However, during turbine operation with low pressure and low quality steam (which is seen during HPCI surveillance testing during plant startup and as would be expected during HPCI operation during a small break LOCA), condensate collects in the drain pot faster than it can be drained through the trap. Under these conditions, valve 2301-32 opens automatically to drain to the gland seal condenser upon receipt of a signal from a drain pot level switch when the drain pot level reaches the high level alarm setpoint. A high level condition actuates an alarm in the control room.

These valves are equipped with hand switches to enable remote operation from the control room; however, they are not equipped with position indicators and the valves are totally enclosed, so valve position cannot be verified by direct

observation. Therefore, it is impractical to exercise and stroke time these valves in accordance with Code requirements. Valve actuation may be indirectly verified by removing the HPCI system from service, filling the drain pot with water until the high level alarm is received, and observing that the high level alarm clears. It is impractical to assign a maximum limiting stroke time to these valves using this test method because the time for the alarm to clear would depend primarily on variables such as the rate of filling and the level of the drain pot when the filling is secured. The steam line drain pot is not equipped with direct level indication; therefore, the time required for the alarm to clear may vary significantly and operation of valve 2301-32 cannot be verified by operation of the switch.

Failure of these valves to perform their safety function would be indicated by a drain pot high level alarm during operation with low pressure steam. Functional tests are conducted on the drain pot level alarm switches at least once each cycle to verify their operability. Additionally, condensate entrapped in the steam would cause significant fluctuations in exhaust steam header pressure.

5. Burden Caused by Compliance

Compliance with the quarterly exercising and stroke timing requirements of the Code would require either system modifications to replace these valves with ones of testable design, or to purchase non-intrusive test equipment and develop new test methods and procedures.

6. Proposed Alternative and Basis for Use

These valves will be exercised quarterly using the handswitch. They will also be functionally tested each refueling outage by filling the drain pot and verifying that valve 2301-32 actuates as indicated by the high level alarm clearing.

Because exercising of these valves without stroke timing provides no measure of valve degradation, maintenance activities were instituted to compensate for testing deficiencies. Following discussions with the manufacturer regarding valve design and application, it was decided to disassemble, examine and repair or replace these valves every third cycle in addition to the above testing.

7. Duration of Proposed Alternative

This proposed alternative will be utilized for the entire 4th 120 month interval.

8. Precedents

Letter from U. S. NRC to Mr. D. L. Farrar (Commonwealth Edison Company), "Revision 3 to the Third 10-Year Interval, Inservice Testing Program- Dresden Nuclear Power Station, Units 2 and 3," dated April 6, 1996.

10 CFR 50.55a Request Number RV-57A

Relief is requested in accordance with 10 CFR 50.55a(a)(f)(iii), Inservice Testing Impracticality

1. ASME Code Components Affected

Valve	Size	Category	Class	P&ID/ Coordinate	Function
2/3-5741-62	2.5"	B	3	3121/3B	Control Room HVAC Outlet Flow Control Valve

2. Applicable Code Edition and Addenda

ASME OM Code 1998 Edition through 2000 Addenda

3. Applicable Code Requirement

ISTC-5130, Pneumatic Valve Stroke Testing

4. Reason for Request

A Relief was requested in 1996 by DNPS and granted by the NRC for the 3rd interval due to impracticality of compliance. Therefore, this relief request is being re-submitted for the fourth interval to comply with the current OM Code This valve controls the cooling water flow through the Control Room HVAC Refrigerant heat exchanger. The valve receives a signal from a pressure transmitter located on the refrigerant side. When the pressure increases due to the refrigerant temperature rising, the 2/3-5741-62 throttles open further to allow more cooling. Similarly, the valve throttles flow down when the pressure drops.

The valve opens and closes based on a signal from a pressure transmitter and therefore, cannot be accurately timed.

5. Burden Caused by Compliance

Forcing the valve to stroke by disconnecting the air tubing from the transducer and connecting an external air source is cumbersome and will not yield repeatable data. The valve stem is readily visible and can easily be observed for degrading conditions.

6. Proposed Alternative and Basis for Use

This valve will be exercised and fail-safe tested quarterly by isolating the air to the valve. Stem conditions and motion will be observed for evidence of degrading conditions.

7. Duration of Proposed Alternative

This proposed alternative will be utilized for the entire 4th 120 month interval.

8. Precedents

Letter from U. S. NRC to Mr. D. L. Farrar (Commonwealth Edison Company), "Revision 3 to the Third 10-Year Interval, Inservice Testing Program- Dresden Nuclear Power Station, Units 2 and 3," dated April 6, 1996.