



**Commonwealth Edison**  
 1400 Opus Place  
 Downers Grove, Illinois 60515

April 9, 1991

Dr. Thomas E. Murley, Director  
 Office of Nuclear Reactor Regulation  
 U.S. Nuclear Regulatory Commission  
 Washington, D.C. 20555

Attn: Document Control Desk

Subject: Dresden Nuclear Power Station Units 2 and 3  
 Relief Request for Inservice Testing Program  
NRC Docket Nos. 50-237 and 50-249

- References: (a) M. Richter (CECo) letter to T. Murley (NRC), dated March 13, 1991.
- (b) Conference Call between CECo (M. Richter, et al.) and NRR (B. Siegel, et al.) on March 26, 1991.

Dr. Murley:

Reference (a) submitted relief request VR-25 to the Inservice Testing (IST) Program for Dresden Station (Units 2 and 3), which pertained to the Section XI Main Steam safety valve setpoint testing. The relief request was submitted in order to utilize the acceptance criteria (3 percent greater than design set pressure) allowed by the 1986 Edition of the ASME Code (Section XI) for safety valve setpoint testing. This relief is necessary since the applicable Edition of Section XI for Units 2 and 3 (1977 Edition through the Summer 1979 Addenda) does not provide definitive acceptance criteria for the purposes of determining sample expansion during Main Steam safety valve setpoint testing ("as-found" testing). Recent discussions with your staff in the Reference (b) teleconference indicated that Commonwealth Edison Company (CECo) should propose a lower limit for the acceptance criteria. Relief request VR-25 has been revised appropriately, and is being resubmitted with this letter as Attachment 'A'.

To support the use of the upper limit of the acceptance criteria (3 percent greater than design set pressure), CECo indicated in Reference (a) that a bounding overpressurization event was being analyzed for each unit to ensure compliance with the ASME overpressurization protection limit (1375 psig, 10% over design pressure), which is the basis for the Reactor Coolant System Safety Limit (1345 psig steam dome pressure). Analyses for the limiting ASME overpressurization event (Main Steam Isolation Valve closure event without crediting relief valve actuation) are performed each cycle for Units 2 and 3. For the current cycles (Unit 2 Cycle 13, Unit 3 Cycle 12), these analyses were performed with the lift pressures of the eight (8) Main Steam safety valves, and the safety function of the Target Rock safety-relief valve, increased by one percent (1%), yielding peak vessel pressures of

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1340 psig (1311 psig steam dome pressure) for Unit 2 and 1334 psig (1310 psig steam dome pressure) for Unit 3. To support this relief request, a conservative five percent (5%) increase in the lift pressures of the Main Steam safety valves and Target Rock safety-relief valve (safety function) was utilized for the bounding analyses, as shown on Attachment 'B'. The bounding analyses yielded a peak vessel pressure of 1371.9 psig (1342.5 psig steam dome pressure) for Unit 2 and 1368.8 psig (1344.8 psig steam dome pressure) for Unit 3. The results of the analyses indicate compliance with the ASME overpressurization protection limit (1375 psig), and the Reactor Coolant System Safety Limit (1345 psig steam dome pressure), utilizing a 5% increase in lift pressures; therefore, utilization of an upper limit acceptance criteria of three percent (3%) greater than design set pressure is acceptable. For continued support of this relief request, a bounding analysis will be performed for future reloads/cycles utilizing an increase in lift pressures of 3% or greater.

Please direct any questions or comments on this letter to this office.

Respectfully,

*Milton H. Richter*

M.H. Richter  
Nuclear Licensing Administrator

Attachments: A - Relief Request Number VR-25  
B - Bounding Overpressurization Event Analyses

cc: A.B. Davis - Regional Administrator, Region III  
B.L. Siegel - NRR Project Manager  
D.E. Hills - Senior Resident Inspector, Dresden

MR:lmw

**ATTACHMENT A**

**RELIEF REQUEST NUMBER VR-25**

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**1. Description**

1.1. Acceptance criteria for ASME Section XI testing of Main Steam safety valves.

**2. Affected Components**

Main Steam safety valves for Units 2 and 3.

<u>Valve EPN</u>	<u>Size (in.)</u>	<u>IST Cat.</u>	<u>Class</u>	<u>P&amp;ID/Coord.</u>
2-203-4A	6	C	1	12-1/8E
2-203-4B	6	C	1	12-1/8E
2-203-4C	6	C	1	12-1/8D
2-203-4D	6	C	1	12-1/8D
2-203-4E	6	C	1	12-1/8C
2-203-4F	6	C	1	12-1/8C
2-203-4G	6	C	1	12-1/8B
2-203-4H	6	C	1	12-1/8B
3-203-4A	6	C	1	345-1/8E
3-203-4B	6	C	1	345-1/8E
3-203-4C	6	C	1	345-1/8D
3-203-4D	6	C	1	345-1/8D
3-203-4E	6	C	1	345-1/8C
3-203-4F	6	C	1	345-1/8C
3-203-4G	6	C	1	345-1/8B
3-203-4H	6	C	1	345-1/8B

**3. ASME Section XI (S79) Test Requirement**

3.1. IWV-3513, Additional Tests.

3.1.1. IWV-3513 requires that when a safety or relief valve in a system fails to function properly during setpoint testing, additional valves in the system shall be tested.

**4. Basis for Relief**

4.1. For Main Steam safety valve setpoint testing ("as-found" setpoint testing), IWV-3513 of the applicable Edition of Section XI (1977 Edition through the Summer 1979 Addenda) does not provide definitive acceptance criteria for the determination of additional valve testing (sample expansion). However, IWV-3513 of the 1986 Edition of Section XI provides acceptance criteria via a reference to ANSI/ASME OM-1-1981, which provides requirements for inservice performance testing of pressure relief devices. For Class 1 pressure relief devices, OM-1-1981 provides a setpoint acceptance criteria of three percent (3%) greater than the stamped (design) set pressure.

- 4.2. Since OM-1-1981 does not provide guidance for sample expansion when the "as-found" setpoint pressure test results are found lower than the stamped (design) set pressure, a lower limit based on the peak steam line pressure which occurs during a Main Steam Isolation Valve (MSIV) closure with a direct scram (Group 1 isolation event) is considered appropriate. Commonwealth Edison Company's reload licensing practices for the MSIV closure event require that a 60 psig margin exist between peak pressure and the lowest setpoint of the Main Steam safety valves (1240 psig), which corresponds to a peak pressure of 1180 psig, in order to ensure that the safety valves (which discharge to the drywell) do not lift.

## **5. Alternative Test (Alternative Acceptance Criteria)**

- 5.1. For Main Steam safety valve setpoint testing ("as-found" setpoint testing), the following acceptance criteria will be utilized for the determination of additional safety valve setpoint testing: 1) an upper limit criteria of +3% (3% greater than design set pressure) as allowed by the 1986 Edition of Section XI; and 2) a lower limit criteria of 1180 psig which is consistent with reload licensing practices. The lower limit of 1180 psig translates to a setpoint decrease of approximately 4.8%, 5.6%, and 6.3% for the Main Steam safety valves with setpoints of 1240 psig, 1250 psig, and 1260 psig, respectively. Sample expansion of the safety valves will be consistent with IWV-3513 of the currently applicable Edition of Section XI (1977 Edition through the Summer 1979 Addenda). In accordance with the current Technical Specifications, the setpoint of the Main Steam safety valves will be within plus or minus one percent ( $\pm 1\%$ ) of design set pressure prior to installation.
- 5.2. Relief is requested for the second ten-year interval (March 1, 1982 to March 1, 1992) of the IST Program for Units 2 and 3.

ATTACHMENT B

Bounding Overpressurization Event Analyses

for

Unit 2 Cycle 13 and Unit 3 Cycle 12

<u>Main Steam Safety Valve Set</u>	<u>No. of Valves</u>	<u>Tech. Spec. Setpoint (psig)</u>	<u>Reload Analyses (+1%) (psig)*</u>	<u>Bounding Analyses (+5%) (psig)</u>
1	2	1240	1252.6	1302.8
2	2	1250	1262.7	1313.3
3	2	1260	1272.8	1323.8
4	2	1260	1272.8	1323.8
Target Rock Safety-Relief (safety function)	1	1135	1146.5	1192.5

\* - Technical Specifications allow a Main Steam safety valve setpoint variation of plus or minus one percent ( $\pm 1\%$ ) prior to installation.

NOTE: ASME overpressurization event analysis does not credit relief valve actuation.