UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO APPENDIX J TO 10 CFR 50 TESTING

NINE MILE POINT UNIT 2

DOCKET NO. 50-410

## INTRODUCTION

By letter dated July 3, 1986, the applicant withdrew a request for exemption from Section III C of Appendix J to 10 CFR 50 for 16 relief valves. The exemption request was to eliminate the need to locally leak rate test these valves per the requirements identified under the type C test program. The withdrawal was based on several factors. Three of the valves were determined to be capable of reverse flow testing. As a result, these valves will be type C air tested in accordance with Appendix J. The remaining 13 valves will have their discharge lines modified, prior to fuel load, so that they do not represent a containment atmospheric leak path. Specifically, the vacuum breakers will be seal welded closed. This modification eliminates the pathway to the containment atmosphere since the discharge pipes end within the suppression pool and below the minimum post-Loca drawdown water level.

## EVALUATION

The staff has reviewed the requested exemption withdrawal for 16 relief valves from Section III C of Appendix J to 10 CFR 50. The applicant has reevaluated the potential of reverse testing. The results have enabled him to include that for three valves, the reverse test is as conservative as a forward test. Therefore, these three valve will be tested in the reverse direction, which is in compliance with the requirements of Appendix J.

The remaining 13 valves with their associated piping will be modified, prior to fuel load, to eliminate them as potential containment atmosphere leak pathways. This will be accomplished by seal welding closed the discharge line vacuum breakers. The weld will be continuous and leak checked to assure a leak tight barrier. In addition, discussions with the applicant have indicated the elimination of the vacuum breaker function will not cause steam condensation loads to exceed design. After these modifications have been made, the 13 relief valve can be assumed to qualify for hydrostatic rather than pneumatic testing. As a result, Appendix J requirements are not applicable. Therefore, an exemption from the Type C testing requirements is not required.

## CONCLUSION

The staff concurs with the approach taken by the applicant to withdraw the exemption request for 16 relief valves. For three valves, the reverse direction tests puts these valves in complete compliance with Appendix J requirements. Therefore no exemption is needed. For the remaining 13 relief valves, the committed to modifications would make Appendix J requirements inapplicable. Therefore, the exemption request is not necessary.

TABLE 3.6.3-1 (Continued)

PRIMARY CONTAINMENT ISOLATION VALVES

| ISOLATION VALVE NO. | VALVE FUNCTION | VALVE GROUP | ISOLATION SIGNAL(a) | MAXIMUM CLOSING TIME (SECONDS) |
|---|---|---|---|---|
| D. Other | | | | |
| Safety Relief | | | | |
| 2RHS*RV20 A,B,C(e) (d) | RHS Rv disch. to SP Outside IVs | | | |
| 2RHS*RV61 A,B,C(e) (d) | RHS Rv disch. to SP Outside IVs | | | |
| 2RHS*RV108(e) (d) | RHS Rv disch. to SP Outside IVs | | | |
| 2RHS*RV110(e) (d) | SDC to RHR Pump suction Rv | | | |
| 2RHS*RV139(e) (d) | RHR Hdr. Flush to Radwaste RV | | | |
| 2RHS*RV152(c) (n) | SDC Supply from RCS RV Inside IV | | | |
| 2RHS*RV56 A,B(d) | RHS HX shell side RVs | | | |
| 2RHS*SV34 A,B(d) | RHS HX steam supply Safety valves | | | |
| 2RHS*SV62 A,B(d) | RHS HX steam supply Safety valves | | | |
| 2RHS*RVV35 A,B(d) | RHS Vacuum Breakers | | | |
| 2CSL*RV105(e) (d) | CSL RV Disch. to SP Outside IV | | | |
| 2CSL*RV123(e) (d) | CSL RV Disch. to SP Gutside IV | | | |
| 2RHS*RVV36 A,B(d) | RHS Vacuum Breakers | | | |
| 2CCP*RV170(e) (n) | CCP RV Discharge Inside IV | | | |
| 2CCP*RV171(e) (n) | CCP RV Discharge Inside IV | | | |
| 2CSH*RV113(e) (d) | CSH RV Disch. to SP Outside IV | | | |
| 2CSH*RV114(e) (d) | CSH RV Disch. to SP Outside IV | | | |

TABLE 3.6.3-1 (Continued)

PRIMARY CONTAINMENT ISOLATION VALVES

| ISOLATION VALVE NO. | VALVE FUNCTION | VALVE GROUP | ISOLATION SIGNAL(a) | MAXIMUM CLOSING TIME (SECONDS) |
|---|---|---|---|---|
| **Check Valves** | | | | |
| 2RHS*AOV16 A,B,C(h) | RHS/LPCI to RPV Inside IVs | | | |
| 2RHS*AOV39 A,B(h) | SDC to RCS Inside IVs | | | |
| 2CPS*V50 | Nitrogen Supply to 2CPS*AOV107 Inside IV | | | |
| 2CPS*V51 | Nitrogen Supply to 2CPS*AOV109 Inside IV | | | |
| 2CSH*AOV108(h) | CSH to RPV Inside IV | | | |
| 2CSL*AOV101(h) | CSL to RPV Inside IV | | | |
| 2ICS*AOV156(h) | ICS to RPV Outside IV | | | |
| 2ICS*AOV157(h) | ICS to RPV Inside IV | | | |
| 2SLS*V10 | SLS to RPV Inside IV | | | |
| 2GSN*V170 | $N_2$ Purge to Tip Index Mech. Inside IV | | | |
| 2IAS*V448 | IAS to ADS Accumulators Inside IV | | | |
| 2IAS*V409 | IAS to ADS Accumulators Inside IV | | | |
| 2RCS*V59 A,B | RDS to RCS Pump A Seal Outside IVs | | | |
| 2RCS*V60 A,B | RDS to RCS Pump A Seal Inside IVs | | | |
| 2RCS*V90 A,B | RDS to RCS Pump A Seal Outside IVs | | | |
| 2RHS*V19(d)(f) | Discharge Check from RCIC to Supp. Pool | | | |
| 2RHS*V20(d)(f) | Discharge Check from RCIC to Supp. Pool | | | |
| 2RHS*V117(d)(f) | Check Valve from RCIC Drain to Supp. Pool | | | |
| 2RHS*V118(d)(f) | Check Valve from RCIC Drain to Supp. Pool | | | |
| 2FWS*AOV23 A,B(h) | Feedwater to RPV Outside IV's | | | |
| 2FWS*V12 A,B | Feedwater to RPV Inside IV's | | | |

TABLE 3.6.3-1 (Continued)

PRIMARY CONTAINMENT ISOLATION VALVES

| ISOLATION VALVE NO. | VALVE FUNCTION | VALVE GROUP | ISOLATION SIGNAL(a) | MAXIMUM CLOSING TIME (SECONDS) |
|---|---|---|---|---|
| Excess Flow Check(e) Reactor Instrumentation Lines | | | | |
| 2ISC*EFV1 | Inst. Line from MSS | | | |
| 2ISC*EFV2 | Inst. Line from N14,200° | | | |
| 2ISC*EFV3 | Inst. Line from N14,160° | | | |
| 2ISC*EFV4 | Inst. Line from N13,190° | | | |
| 2ISC*EFV5 | Inst. Line from N14,20° | | | |
| 2ISC*EFV6 | Inst. Line from N14,340° | | | |
| 2ISC*EFV7 | Inst. Line from N13,10° | | | |
| 2ISC*EFV8 | Inst. Line from N12,160° | | | |
| 2ISC*EFV10 | Inst. Line from N12,200° | | | |
| 2ISC*EFV11 | To 2ISC*FT47K,FT48B | | | |
| 2ISC*EFV13 | To 2ISC*FT47H | | | |
| 2ISC*EFV14 | Vessel Bottom tap, loop A Jet Pump | | | |
| 2ISC*EFV15 | Inst. Line from N12,340° | | | |
| 2ISC*EFV17 | Inst. Line from N12,20° | | | |
| 2ISC*EFV18 | To 2ISC*FT47J,FT48A | | | |
| 2ISC*EFV20 | To 2ISC*FT47E | | | |
| 2ISC*EFV21 | Vessel Bottom tap for CSH, RDS | | | |
| 2ISC*EFV22 | Vessel Bottom Tap for WCS and Loop B J.P. | | | |
| 2ISC*EFV23 | To 2ISC*FT48C and Postaccident Sampling | | | |
| 2ISC*EFV24 | To 2ISC*FT48D and Postaccident Sampling | | | |
| 2ISC*EFV25 | To 2ISC*FT47L | | | |
| 2ISC*EFV26 | To 2ISC*FT47C | | | |
| 2ISC*EFV27 | To 2ISC*FT47A | | | |
| 2ISC*EFV28 | To 2ISC*FT47R | | | |
| 2ISC*EFV29 | To 2ISC*FT47G | | | |
| 2ISC*EFV30 | To 2ISC*FT47N | | | |
| 2ISC*EFV31 | To 2ISC*FT48A | | | |
| 2ISC*EFV32 | To 2ISC*FT47T | | | |
| 2ISC*EFV33 | To 2ISC*FT47V,FT48C | | | |

TABLE 3.6.3-1 (Continued)

PRIMARY CONTAINMENT ISOLATION VALVES

| ISOLATION VALVE NO. | VALVE FUNCTION | VALVE GROUP | ISOLATION SIGNAL(a) | MAXIMUM CLOSING TIME (SECONDS) |
|---|---|---|---|---|
| 21SC*EFV34 | To 21SC*FT47B | | | |
| 21SC*EFV35 | To 21SC*FT47D | | | |
| 21SC*EFV36 | TO 21SC*FT47F | | | |
| 21SC*EFV37 | To 21SC*FT47S | | | |
| 21SC*EFV38 | To 21SC*FT47M | | | |
| 21SC*EFV39 | To 21SC*FT47P | | | |
| 21SC*EFV40 | To 21SC*FT48B | | | |
| 21SC*EFV41 | To 21SC*FT47U | | | |
| 21SC*EFV42 | To 21SC*FT47W,FT48D | | | |
| 21SC*EFV9 | Containment Pressure 21SC*PT15C, 16B, 16D | | | |
| 21SC*EFV12 | Containment Pressure 21SC*PT15B, 17B, 17D | | | |
| 21SC*EFV16 | Containment Pressure 21SC*PT15A, 16A, 16C | | | |
| 21SC*EFV19 | Containment Pressure 21SC*PT15D, 17A, 17C | | | |
| 2CMS*EFV1A | To CMS*PT1A | | | |
| 2CMS*EFV1B | To CMS*PT1B | | | |
| 2CMS*EFV3A | To CMS*PT2A | | | |
| 2CMS*EFV3B | To CMS*PT2B | | | |
| 2CMS*EFV5A | To CMS*PT7A | | | |
| 2CMS*EFV5B | To CMS*PT7B | | | |
| 2CMS*EFV6 | To CMS-PT168 | | | |
| 2CMS*EFV8A | To CMS*LT9A, 11A, 114 | | | |
| 2CMS*EFV8B | To CMS*LT9B, 11B, 105 | | | |
| 2CMS*EFV9A | To CMS*LT9A, 11A, 114 | | | |
| 2CMS*EFV9B | To CMS*LT9B, 11B, 105 | | | |
| 2CMS*EFV10 | To CMS-PI173 | | | |
| 21CS*EFV1 | To 21CS*PDT167 | | | |
| 21CS*EFV2 | To 21CS*PDT167 | | | |
| 2DER*EFV31 | To DER*PT134 | | | |

TABLE 3.6.3-1 (Continued)

PRIMARY CONTAINMENT ISOLATION VALVES

| ISOLATION VALVE NO. | VALVE FUNCTION | VALVE GROUP | ISOLATION SIGNAL(a) | MAXIMUM CLOSING TIME (SECONDS) |
|---|---|---|---|---|
| 2ICS*EFV3 | To 2ICS*PDT168 | | | |
| 2ICS*EFV4 | To 2ICS*PDT168 | | | |
| 2IAS*EFV200 | To 2IAS*PT230 off ADS Accum. | | | |
| 2IAS*EFV201 | To 2IAS*PT231 off ADS Accum. | | | |
| 2IAS*EFV202 | To 2IAS*PT232 off ADS Accum. | | | |
| 2IAS*EFV203 | To 2IAS*PT233 off ADS Accum. | | | |
| 2IAS*EFV204 | To 2IAS*PT234 off ADS Accum. | | | |
| 2IAS*EFV205 | To 2IAS*PT235 off ADS Accum. | | | |
| 2IAS*EFV206 | To 2IAS*PT236 off ADS Accum. | | | |
| 2RHS*EFV 5, 6 | To 2RHS*PDT18B | | | |
| 2RHS*EFV7 | To 2RHS*PDT18A | | | |
| 2MSS*EFV 1A,B,C,D | To Flow elements A,B,C,D steamlines | | | |
| 2MSS*EFV 2A,B,C,D | To Flow elements A,B,C,D steamlines | | | |
| 2MSS*EFV 3A,B,C,D | To Flow elements A,B,C,D steamlines | | | |
| 2MSS*EFV 4A,B,C,D | To Flow elements A,B,C,D steamlines | | | |
| 2RCS*EFV44 A,B | To 2RCS*PT 84 A/B | | | |
| 2RCS*EFV45 A,B | To 2RCS*FT 7 A/B, FT 9 A/B | | | |
| 2RCS*EFV46 A,B | To 2RCS*FT 7 A/B, FT 9 A/B | | | |
| 2RCS*EFV47 A,B | To 2RCS*FT 6 A/B, FT 8 A/B | | | |
| 2RCS*EFV48 A,B | To 2RCS*FT 6 A/B, FT 8 A/B | | | |
| 2RCS*EFV52 A,B | To 2RCS*PDT 15 A/B | | | |
| 2RCS*EFV53 A,B | To 2RCS*PDT 15 A/B | | | |
| 2RCS*EFV62 A,B | To 2RCS*PT44 A/B | | | |
| 2RCS*EFV63 A,B | To 2RCS*PT42 A/B | | | |

TABLE 3.6.3-1 (Continued)

PRIMARY CONTAINMENT ISOLATION VALVES

| ISOLATION VALVE NO. | VALVE FUNCTION | VALVE GROUP | ISOLATION SIGNAL(a) | MAXIMUM CLOSING TIME (SECONDS) |
|---|---|---|---|---|
| 2WCS*EFV221 | To 2WCS-FT 134 | | | |
| 2WCS*EFV222 | To 2WCS*FT67X, PDS 115 | | | |
| 2WCS*EFV223 | To 2WCS*FT67Y | | | |
| 2WCS*EFV224 | To 2WCS*FT67Y | | | |
| 2WCS*EFV300 | To 2WCS*FT67X, PDS 115 | | | |
| 2CSH*EFV1 | To 2CSH*LT123, LT124 | | | |
| 2CSH*EFV2 | To 2CSH*LT123, LT124 | | | |
| 2CSH*EFV3 | To 2CSH*PDT109 | | | |
| 2CSL*EFV1 | To 2CSL*PDT132 and 2RHS*PDT18A | | | |

TABLE 3.6.3-1 (Continued)

PRIMARY CONTAINMENT ISOLATION VALVES

TABLE NOTATION

* Isolates on injection signal, not primary containment isolation signal.

(a) See Specification 3.3.2, Table 3.3.2-4, for valve groups operated by isolation signal(s).

(b) Deleted.

(c) These valves are the RHR heat exchangers vent lines isolation valves. The vent line connects to the RHR safety relief valves (SRVs) Discharge Header before it penetrates the primary containment. The position indicators for these valves are provided in the Control Room for remote manual isolation.

(d) Type C leakage tests not required.

(e) The associated instrument lines shall not be isolated during Type A testing. Type C testing is not required. These valves shall be tested in accordance with Surveillance Requirement 4.6.3.4.

(f) These valves are check valves, located on the vacuum breaker lines for RHR SRVs discharge headers. The SRV discharge header terminates under pool water and therefore has no containment isolation valves other than those on lines feeding into it.

(g) 2SLS*MOV5A and B are globe stop check valves. These valves close upon reverse flow. The motor operator is provided to remote manually close the valve from the control room.

(h) These valves are testable check valves. They close upon reverse flow. The air operator on each valve is provided only for periodic testing of the valve. These valves can only be tested against a zero d/p.

(i) Valves are maintained closed and the lines are capped. Valves are Type C tested.

(j) Not primary containment penetration isolation valves. These valves close on an isolation signal to provide integrity of "A" and "B" LPCI loops.

(k) Valves close on a SCRAM signal; not part of primary containment isolation system but are included here for Type C testing per Specification 3.6.1.2. These valves are not required to be OPERABLE per this specification but are required to be OPERABLE per Specification 3.1.3.1.

(l) Not subject to Type A or Type C leak test because of constant monitoring under constant 1800 psig pressure and the possible detrimental effects of shutdown.

(m) Not subject to Type C test per 10 CFR 50, Appendix J. A hydrostatic test is performed in accordance with Specification 4.6.1.2.d.3.

(n) These valves are Type C tested in the reverse direction.



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SALP INPUT FROM THE PLANT SYSTEM BRANCH FOR NINE MILE POINT UNIT 2 PROPOSED TECHNICAL SPECIFICATION CHANGES

A. Licensing Activities

1. Management Involvement in Assuring Quality

During the review process the licensee's activities exhibited little evidence of prior planning.

Rating: 3

2. Approach to Resolution of Technical Issues from a Safety Standpoint.

During the review some issues were not resolved in a timely manner

Rating: 3

3. Responsive to NRC Initiatives

Rating: N/A

4. Staffing (including Management)

Rating: N/A

5. Reporting and Analysis of Reportable Events.

Rating: N/A

6. Training and Qualification Effectiveness.

Rating: N/A

7. Overall rating for Licensing Activity Functioal Area:

Rating: 3