Niagara Mohawk®

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November 28, 2000
NMP2L 1999

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

RE: Nine Mile Point Unit 2
Docket No. 50-410
NPF-69

Subject: ***Request for Authorization to Use Alternative to ASME/ANSI OM-1987, Part 1, "Requirements for Inservice Performance Testing of Nuclear Power Plant Pressure Relief Devices" (TAC# MB0296)***

Gentlemen:

By the attached request, Niagara Mohawk Power Corporation (NMPC) proposes to use a modification to the testing requirements of ASME/ANSI OM-1987, Part 1, "Requirements for Inservice Performance Testing of Nuclear Power Plant Pressure Relief Devices," for Nine Mile Point Unit 2 (NMP2). Specifically, this alternative would revise the schedule utilized to test main steam line safety relief valves (SRVs). As discussed in the request, a 24-month refueling cycle has been implemented at NMP2. The change in refueling cycle length has resulted in requiring the SRVs to be more frequently tested in order to meet Code requirements than previously done when implementing an 18-month refueling cycle. To aid in the review of this request, a summary of previous testing results for the NMP2 SRVs is also attached. The NRC has previously approved a similar alternative revising the SRV testing schedule for use at the Susquehanna Steam Electric Station.

NMPC believes that the proposed alternative testing schedule provides an acceptable level of quality and safety. Therefore, NMPC requests NRC authorization of the proposed alternative pursuant to 10CFR50.55a(a)(3)(i), to support the operation of NMP2 as long as 24-month refueling cycles are used. The authorization is requested by June 1, 2001, to support planning efforts for the next NMP2 refueling outage.

Very truly yours,

Richard B. Abbott
Vice President Nuclear Engineering

RBA/JJD/cld
Attachments

A047

xc: Mr. H. J. Miller, NRC Regional Administrator, Region I
Ms. M. K. Gamberoni, Section Chief PD-I, Section 1, NRR
Mr. G. K. Hunegs, NRC Senior Resident Inspector
Mr. P. S. Tam, Senior Project Manager, NRR
Records Management

ATTACHMENTS

NINE MILE POINT NUCLEAR STATION UNIT 2
INSERVICE PUMP AND VALVE TESTING PROGRAM
GVRR–7
PROPOSED ALTERNATIVE To ASME/ANSI OM-1987, Part 1, Paragraph 1.3.3.1(b), Testing Frequency For Main Steam SRVs

***System*:** Main Steam (MSS)

***Valve(s)*:** Main Steam Line Safety-Relief Valves (SRVs)

2MSS*PSV120	2MSS*PSV124	2MSS*PSV128	2MSS*PSV132	2MSS*PSV136
2MSS*PSV121	2MSS*PSV125	2MSS*PSV129	2MSS*PSV133	2MSS*PSV137
2MSS*PSV122	2MSS*PSV126	2MSS*PSV130	2MSS*PSV134	
2MSS*PSV123	2MSS*PSV127	2MSS*PSV131	2MSS*PSV135	

***IST Category*:** C

***ASME Class*:** 1

***Function*:** Main Steam Safety-Relief Valve

***Code Test Requirement*:**

ASME/ANSI OM-1987, Part 1, paragraph 1.3.3.1(b) requires all valves of each type and manufacture shall be tested within each subsequent 5 year period, with a minimum of 20% of the valves tested within any 24 months. This 20% shall be previously untested valves, if they exist.

***Basis for Proposed Alternative*:**

Pursuant to 10CFR50.55a(a)(3)(i), an alternative is proposed to the requirements of ASME/ANSI OM-1987, Part 1, paragraph 1.3.3.1(b). Nine Mile Point Unit 2 (NMP2) has recently implemented a 24-month fuel cycle. When the fuel cycle was 18 months, it was possible to replace approximately one-third of the relief valves each refueling outage and meet the 5-year period requirement and the 20% in 24 months requirement. With the 24-month fuel cycle, one-half of the relief valves typically must be replaced each refueling outage to meet the 5-year period requirement. NMP2 submits that increasing the period for Class 1 relief valves from 5 years to 3 refueling cycles (~6 years) continues to provide an acceptable level of quality and safety while restoring the operational and maintenance flexibility that was lost when the 24-month fuel cycle produced the unintended consequence of additional testing burden. This alternative period continues to provide assurance of valve operational readiness, as required by ASME/ANSI OM-1987, Part 1, paragraph 1.3.1.2, and provides an acceptable level of quality and safety in accordance with 10CFR50.55a(a)(3)(i).

The basis for this request is as follows:

1. A review of the setpoint testing results for the time period from initial operation to the present (~12 years), which comprises 76 data points, shows that the average setpoint change is 0.74%. This slight upward bias is well within the NMP2 Technical Specification 3.4.2 (ITS SR 3.4.4.1) requirement that the as-left setpoint be within 1% of the nameplate, and well within the as-found Code requirement of 3%. The calculated standard deviation from the average for the data was determined to be 1.34%. The testing of SRVs at NMP2 was taken over by the onsite test facility in 1997. There is no significant difference in the average change or the standard deviation between the offsite test facility data and the Niagara Mohawk Power Corporation onsite test facility data. A significant number of the as-found setpoints were greater than 1% above the nameplate set pressure. However, only 3 exceeded the Code tolerance of 3% for the as-found setpoint test, requiring testing of additional SRVs. One valve as-found test was more than 3% below the nameplate set pressure. These data confirm the bias indicated

by the averages: There is a slight tendency toward higher as-found setpoints, but this tendency is well within both the Technical Specification and the Code requirements. The testing data indicate that setpoint history has been good with only infrequent need for Code-required additional testing. Therefore, the increased testing required by the switch to a 24 month refueling cycle (all SRVs tested in two cycles/48 months, compared to all SRVs tested in three 18-month cycles/54 months) will not result in any additional safety benefit to the plant.

2. The additional outage work is contrary to the principle of ALARA. The removal of additional valves each outage requires the removal of additional insulation, instrumentation, and other interferences. This additional work results in an undesirable increase in the radiation exposure to maintenance personnel above that previously received when utilizing an 18 month refueling cycle.

***Alternate Testing*:**

Class 1 pressure relief valves shall be tested at least once every three refueling cycles. A minimum of 20% of the valves from each valve group shall be tested within any 24 month interval. This 20% shall consist of valves that have not been tested during the current three cycle interval, if they exist. The test interval for any individual valve shall not exceed three refueling cycles.

Additionally, as required by the Code, if the setpoint of any SRV is found to be $\geq 3\%$ above the stamped set pressure, two additional SRVs are required to be tested for each valve found to be $\geq 3\%$ above its stamped set pressure, which would significantly increase the rate of testing as a corrective measure.

GVRR-7 SRV Test Data

COMPID	S/N	Stamped Setpoint	Cold Set Pressure	Min. Accept.	Max. Accept.	Procedure	Date	As-Found Set Pressure	Deviation, psi	Percent Deviation
2MSS*PSV121	160964	1,195	#N/A	1,159	1,231	WYLE	11/2/88	1,193	-2.0	-0.17%
2MSS*PSV133	160959	1,165	#N/A	1,130	1,200	WYLE	11/3/88	1,124	-41.0	-3.52%
2MSS*PSV134	160956	1,205	#N/A	1,169	1,241	WYLE	11/4/88	1,211	6.0	0.50%
2MSS*PSV123	160960	1,175	#N/A	1,140	1,210	WYLE	11/5/88	1,178	3.0	0.26%
2MSS*PSV120	160950	1,185	#N/A	1,149	1,221	WYLE	11/7/88	1,184	-1.0	-0.08%
2MSS*PSV137	160970	1,205	#N/A	1,169	1,241	WYLE	11/7/88	1,200	-5.0	-0.41%
2MSS*PSV135	160976	1,195	#N/A	1,159	1,231	WYLE	11/8/88	1,198	3.0	0.25%
2MSS*PSV132	160953	1,185	#N/A	1,149	1,221	WYLE	11/9/88	1,191	6.0	0.51%
2MSS*PSV131	160962	1,175	#N/A	1,140	1,210	WYLE	11/11/88	1,176	1.0	0.09%
2MSS*PSV125	160952	1,185	#N/A	1,149	1,221	WYLE	10/18/90	1,188	3.0	0.25%
2MSS*PSV122	160969	1,185	#N/A	1,149	1,221	WYLE	10/19/90	1,228	43.0	**3.63%**
2MSS*PSV127	160954	1,205	#N/A	1,169	1,241	WYLE	10/22/90	1,184	-21.0	-1.74%
2MSS*PSV129	160955	1,205	#N/A	1,169	1,241	WYLE	10/23/90	1,240	35.0	2.90%
2MSS*PSV130	160975	1,195	#N/A	1,159	1,231	WYLE	10/23/90	1,192	-3.0	-0.25%
2MSS*PSV136	160974	1,175	#N/A	1,140	1,210	WYLE	10/24/90	1,181	6.0	0.51%
2MSS*PSV124	160973	1,175	#N/A	1,140	1,210	WYLE	10/25/90	1,198	23.0	1.96%
2MSS*PSV126	160965	1,195	#N/A	1,159	1,231	WYLE	10/26/90	1,199	4.0	0.33%
2MSS*PSV128	160958	1,148	#N/A	1,114	1,182	WYLE	10/26/90	1,146	-2.0	-0.17%
2MSS*PSV131	160963	1,175	#N/A	1,140	1,210	WYLE	4/10/92	1,188	13.0	1.11%
2MSS*PSV137	160971	1,205	#N/A	1,169	1,241	WYLE	4/11/92	1,228	23.0	1.91%
2MSS*PSV132	160951	1,185	#N/A	1,149	1,221	WYLE	4/12/92	1,207	22.0	1.86%
2MSS*PSV121	160966	1,195	#N/A	1,159	1,231	WYLE	4/13/92	1,230	35.0	2.93%
2MSS*PSV133	160972	1,165	#N/A	1,130	1,200	WYLE	4/13/92	1,147	-18.0	-1.55%
2MSS*PSV134	160957	1,205	#N/A	1,169	1,241	WYLE	4/14/92	1,208	3.0	0.25%
2MSS*PSV135	160967	1,195	#N/A	1,159	1,231	WYLE	4/14/92	1,209	14.0	1.17%
2MSS*PSV120	160968	1,185	#N/A	1,149	1,221	WYLE	4/15/92	1,200	15.0	1.27%
2MSS*PSV123	160961	1,175	#N/A	1,140	1,210	WYLE	4/15/92	1,192	17.0	1.45%
2MSS*PSV122	160950	1,185	#N/A	1,149	1,221	WYLE	4/16/92	1,177	-8.0	-0.68%
2MSS*PSV127	160956	1,205	#N/A	1,169	1,241	WYLE	10/25/93	1,239	34.0	2.82%
2MSS*PSV125	160953	1,185	#N/A	1,149	1,221	WYLE	10/26/93	1,184	-1.0	-0.08%
2MSS*PSV136	160960	1,175	#N/A	1,140	1,210	WYLE	10/27/93	1,182	7.0	0.60%
2MSS*PSV124	160962	1,175	#N/A	1,140	1,210	WYLE	10/28/93	1,180	5.0	0.43%
2MSS*PSV128	160959	1,165	#N/A	1,130	1,200	WYLE	10/29/93	1,133	-32.0	-2.75%
2MSS*PSV126	160936	1,195	#N/A	1,159	1,231	WYLE	10/30/93	1,204	9.0	0.75%
2MSS*PSV129	160970	1,205	#N/A	1,169	1,241	WYLE	10/30/93	1,211	6.0	0.50%
2MSS*PSV130	160976	1,195	#N/A	1,159	1,231	WYLE	11/3/93	1,180	-15.0	-1.26%
2MSS*PSV123	160973	1,175	#N/A	1,140	1,210	WYLE	11/4/93	1,165	-10.0	-0.85%

GVRR-7 SRV Test Data

COMPID	S/N	Stamped Setpoint	Cold Set Pressure	Min. Accept.	Max. Accept.	Procedure	Date	As-Found Set Pressure	Deviation, psi	Percent Deviation
2MSS*PSV125	160950	1,185	#N/A	1,149	1,221	WYLE	3/28/96	1,187	2.0	0.17%
2MSS*PSV127	160957	1,205	#N/A	1,169	1,241	WYLE	3/29/96	1,201	-4.0	-0.33%
2MSS*PSV124	160963	1,175	#N/A	1,140	1,210	WYLE	3/30/96	1,197	22.0	1.87%
2MSS*PSV126	160966	1,195	#N/A	1,159	1,231	WYLE	3/31/96	1,203	8.0	0.67%
	160970	1,205	#N/A	1,169	1,241	WYLE	10/10/96	1,224	19.0	1.58%
	136959	1,165	#N/A	1,130	1,200	WYLE	10/11/96	1,194	29.0	2.49%
	160953	1,185	#N/A	1,149	1,221	WYLE	10/11/96	1,228	43.0	**3.63%**
	160976	1,195	#N/A	1,159	1,231	WYLE	10/11/96	1,210	15.0	1.26%
	160956	1,205	#N/A	1,169	1,241	WYLE	10/12/96	1,221	16.0	1.33%
	160960	1,175	#N/A	1,140	1,210	WYLE	10/12/96	1,219	44.0	**3.74%**
	160936	1,195	#N/A	1,159	1,231	WYLE	10/13/96	1,221	26.0	2.18%
	160962	1,175	#N/A	1,140	1,210	WYLE	10/13/96	1,204	29.0	2.47%
	160903	1,165	1,185	1,149	1,221	N2-MMP-SRV-100	9/30/97	1,202	17.0	1.46%
	160905	1,205	1,226	1,189	1,263	N2-MMP-SRV-100	10/4/97	1,225	-1.0	-0.08%
	160904	1,205	1,226	1,189	1,263	N2-MMP-SRV-100	10/7/97	1,230	4.0	0.33%
	160964	1,195	1,215	1,179	1,251	N2-MMP-SRV-100	10/7/97	1,214	-1.0	-0.08%
	160935	1,185	1,205	1,169	1,241	N2-MMP-SRV-100	10/8/97	1,209	4.0	0.34%
	160951	1,185	1,205	1,169	1,241	N2-MMP-SRV-100	10/8/97	1,212	7.0	0.59%
	160973	1,175	1,195	1,159	1,231	N2-MMP-SRV-100	10/9/97	1,212	17.0	1.45%
	160914	1,175	1,195	1,159	1,231	N2-MMP-SRV-100	10/10/97	1,200	5.0	0.43%
	160939	1,195	1,215	1,179	1,251	N2-MMP-SRV-100	10/10/97	1,226	11.0	0.92%
	160968	1,185	1,205	1,169	1,241	N2-MMP-SRV-100	10/10/97	1,215	10.0	0.84%
2MSS*PSV129	160957	1,205	1,225	1,188	1,262	N2-MMP-SRV-100	5/18/98	1,217	-8.0	-0.66%
2MSS*PSV130	160966	1,195	1,215	1,179	1,251	N2-MMP-SRV-100	5/18/98	1,232	17.0	1.42%
2MSS*PSV132	160969	1,185	1,205	1,169	1,241	N2-MMP-SRV-100	5/18/98	1,224	19.0	1.60%
2MSS*PSV131	160974	1,175	1,195	1,159	1,231	N2-MMP-SRV-100	5/19/98	1,199	4.0	0.34%
2MSS*PSV133	160972	1,165	1,184	1,148	1,220	N2-MMP-SRV-100	5/19/98	1,179	-5.0	-0.43%
2MSS*PSV134	160971	1,205	1,225	1,188	1,262	N2-MMP-SRV-100	5/19/98	1,246	21.0	1.74%
2MSS*PSV124	160906	1,175	1,194	1,158	1,230	N2-MMP-SRV-100	3/12/00	1,189	-5.0	-0.43%
2MSS*PSV125	160952	1,185	1,204	1,168	1,240	N2-MMP-SRV-100	3/12/00	1,220	16.0	1.35%
2MSS*PSV120	160915	1,185	1,204	1,168	1,240	N2-MMP-SRV-100	3/13/00	1,219	15.0	1.27%
2MSS*PSV122	160950	1,185	1,204	1,168	1,240	N2-MMP-SRV-100	3/13/00	1,222	18.0	1.52%
2MSS*PSV123	160963	1,175	1,194	1,158	1,230	N2-MMP-SRV-100	3/13/00	1,208	14.0	1.19%
2MSS*PSV128	160958	1,165	1,184	1,148	1,220	N2-MMP-SRV-100	3/13/00	1,193	9.0	0.77%
2MSS*PSV129	160956	1,205	1,225	1,188	1,262	N2-MMP-SRV-100	3/13/00	1,214	-11.0	-0.91%
2MSS*PSV135	160975	1,195	1,215	1,179	1,251	N2-MMP-SRV-100	3/13/00	1,244	29.0	2.43%
2MSS*PSV136	160961	1,175	1,194	1,158	1,230	N2-MMP-SRV-100	3/13/00	1,221	27.0	2.30%

GVRR-7 SRV Test Data

COMPID	S/N	Stamped Setpoint	Cold Set Pressure	Min. Accept.	Max. Accept.	Procedure	Date	As-Found Set Pressure	Deviation, psi	Percent Deviation
2MSS*PSV137	160954	1,205	1,225	1,188	1,262	N2-MMP-SRV-100	3/13/00	1,222	-3.0	-0.25%
2MSS*PSV121	160965	1,195	1,215	1,179	1,251	N2-MMP-SRV-100	3/14/00	1,231	16.0	1.34%

Number >3% Above Setpoint (OM-1, para. 1.3.3.1(d))	"First Pop" Test Results		Average % Deviation	Standard Deviation
3	Cumulative		0.74%	1.34%
3	Wyle		0.73%	1.54%
0	NMPC		0.77%	0.89%