

CATEGORY 1

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ACCESSION NBR: 9710240208 DOC. DATE: 97/10/17 NOTARIZED: NO DOCKET #
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SUBJECT: Forwards request for relief from ASME Code Section XI,
 OM-1987 Part 1, Paragraph 1.3.3.1(b) requirements for testing
 Unit 1 main steam safety relief valves.

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NOTES: 05000387

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U.S. Nuclear Regulatory Commission
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**SUSQUEHANNA STEAM ELECTRIC STATION
RELIEF REQUEST NO. RR-34 INSERVICE
INSPECTION PLAN FOR PUMPS AND VALVE
OPERATIONAL TESTING FOR UNIT 1
PLA-4681**

FILE R41-2

Docket No. 50-387

Attached please find a request for relief from the ASME Code Section XI, OM-1987 Part 1, Paragraph 1.3.3.1(b) requirements for testing Unit 1 Main Steam Safety Relief Valves. The need for the relief is based upon the fact that Susquehanna will be implementing a 24 month fuel cycle on Unit 1 with the completion of the next refueling outage in the spring of 1998. The basis for relief is that the current Code testing requirements will result in a hardship without a compensating increase in the level of quality and safety.

Pursuant to 10CFR50.55a(f)(6)(i), relief is requested from the requirements of ASME Code Section XI, OM-1987 Part 1, Paragraph 1.3.3.1(b). Due to Susquehanna's implementation of a 24 month fuel cycle, the requirements described above create a hardship for this plant, potentially compromise radiation safety and could jeopardize refuel outage schedule durations.

Susquehanna currently removes and tests 8 of the 16 Main Steam Safety/Relief Valves (MSRVs) during each refueling outage. This methodology meets the Code criteria of testing previously untested valves and permits the removal and replacement of weeping valves detected during the previous operating cycle. Weeping MSRVs are detected by monitoring tailpipe temperatures. If the tailpipe temperature exceeds 200 degrees F, then the relief valve is viewed as a weeper. With an 18 month fuel cycle, the completion of Code testing occurred over a period of 3 refuel cycles. This approach has resulted in maintenance and operational flexibility which has had the following benefits for Susquehanna:

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- 1) Provides the ability to both test the Code required valves out of the population not yet tested, and replace any weeping MSRVs.
- 2) Maintains relatively leak-free MSRVs, thus minimizing the necessary run time of ECCS systems that provide suppression pool cooling.
- 3) There is a consistent application of ALARA principles.
- 4) This is an approach which enhances equipment reliability.
- 5) This results in minimal impact on outage durations.
- 6) Fewer spare replacement assemblies are required, thus, reducing inventory costs.

18 month fuel cycles provided the flexibility for strict compliance with the Code required interval of 5 years and the requisite flexibility to deal with any weeping MSRVs. For 24 month fuel cycles, strict Code compliance would restrict Susquehanna's operating philosophy to not operate with weeping MSRVs. Strict Code compliance would also not provide any maintenance flexibility, unless a larger population of MSRVs were tested each outage. This results in a hardship without a compensating increase in the level of quality and safety. The basis for the hardship is as follows:

- 1) MSRv testing and replacement of weeping valves would occur over only two 24 month refuel cycles. This has the potential to increase outage scope and extend refuel outage schedule durations. Additional expenditures would be incurred to test a greater number of valves each outage.
- 2) The increased testing over only 2 refuel cycles would result in no additional safety benefit to the plant. Susquehanna has had excellent performance with MSRVs over the last 10 years. Since 1987, Susquehanna has imposed a more conservative as-left leakage criteria on the testing facility than was specified in the General Electric Specification and incorporated in the PP&L Specification for testing Crosby style relief valves. The criteria imposed on the test lab is 0 ml/5 min. (via the purchase order), compared to a GE Specification "as-left" leakage criteria of 38 ml/5 min. Actual MSRv performance history since 1987 has shown a decreasing trend in the number of weeping MSRVs, going from a high of 6 weepers in cycle 4 to 2 weepers in the current cycle 10.
- 3) The additional outage work would be contrary to the principles of ALARA and could compromise radiation safety. Because of the location of certain MSRVs in the containment, interferences exist that would require the removal of more valves and piping to get to those valves that must be removed for the sample testing. This results in more radiation exposure to the maintenance personnel than is desirable.

- 4) The purchase of additional MSR/V spares would be required, creating an economical hardship, since a larger number of MSR/Vs would potentially have to be removed during each refuel outage and sent to an offsite testing facility.

Additionally, our maintenance and testing history shows that since commercial operation we have had only two "as found" set pressure test acceptance criteria failures (+3%) of the tested valves, which required testing of additional MSR/Vs.

The following alternative testing is proposed:

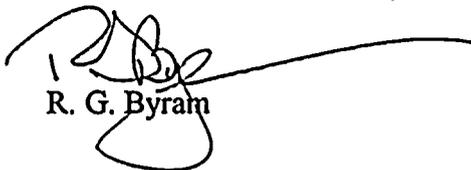
The Main Steam Safety/Relief Valves will be tested such that a minimum of 20% of the valves (previously untested, if they exist) are tested every 24 months, such that all the valves will be tested within 3 refuel cycles. This proposal utilizes the same maintenance and testing approach that was applied in 18 month refuel cycles. This alternative frequency will continue to provide assurance of the valve operational readiness, as required by OM-1987, Part 1, paragraph 1.3.1.2, and provides an acceptable level of quality and safety.

Additionally, any failures, either seat leakage or pressure set, occurring at the test facility, as well as weeping MSR/Vs that develop during the operating cycle, will be documented via the corrective action program, evaluated and dispositioned accordingly.

We request your review and approval by January 12, 1998 in order to support the planning and scheduling of resources and materials for the refueling outage, which is scheduled to begin on April 11, 1998.

If you have any questions, please contact Mr. C. T. Coddington at (717) 542-3294.

Very truly yours,



R. G. Byram

Attachments

copy: NRC Region I
Mr. K. Jenison, NRC Sr. Resident Inspector
Mr. C. Poslusny, NRC Sr. Project Manager

ISI-T-100.0

RELIEF REQUEST NUMBER 34

System: Nuclear Boiler

P&ID: 141

<u>Valves</u>	<u>Category</u>		
PSV-141F013A	C	PSV-141F013J	B, C
PSV-141F013B	C	PSV-141F013K	B, C
PSV-141F013C	C	PSV-141F013L	B, C
PSV-141F013D	C	PSV-141F013M	B, C
PSV-141F013E	C	PSV-141F013N	B, C
PSV-141F013F	C	PSV-141F013P	C
PSV-141F013G	B, C	PSV-141F013R	C
PSV-141F013H	C	PSV-141F013S	C

Class: 1

Function: Main Steam Safety/Relief Valve

Impractical Test Requirement:

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 Relief:

Pursuant to 10CFR50.55a(f)(6)(i), relief is requested from the requirements of ASME Code Section XI, OM-1987 Part 1, Paragraph 1.3.3.1(b). Due to Susquehanna's implementation of a 24 month fuel cycle, the requirements described above create a hardship for this plant, potentially compromise radiation safety and could jeopardize refuel outage schedule durations.

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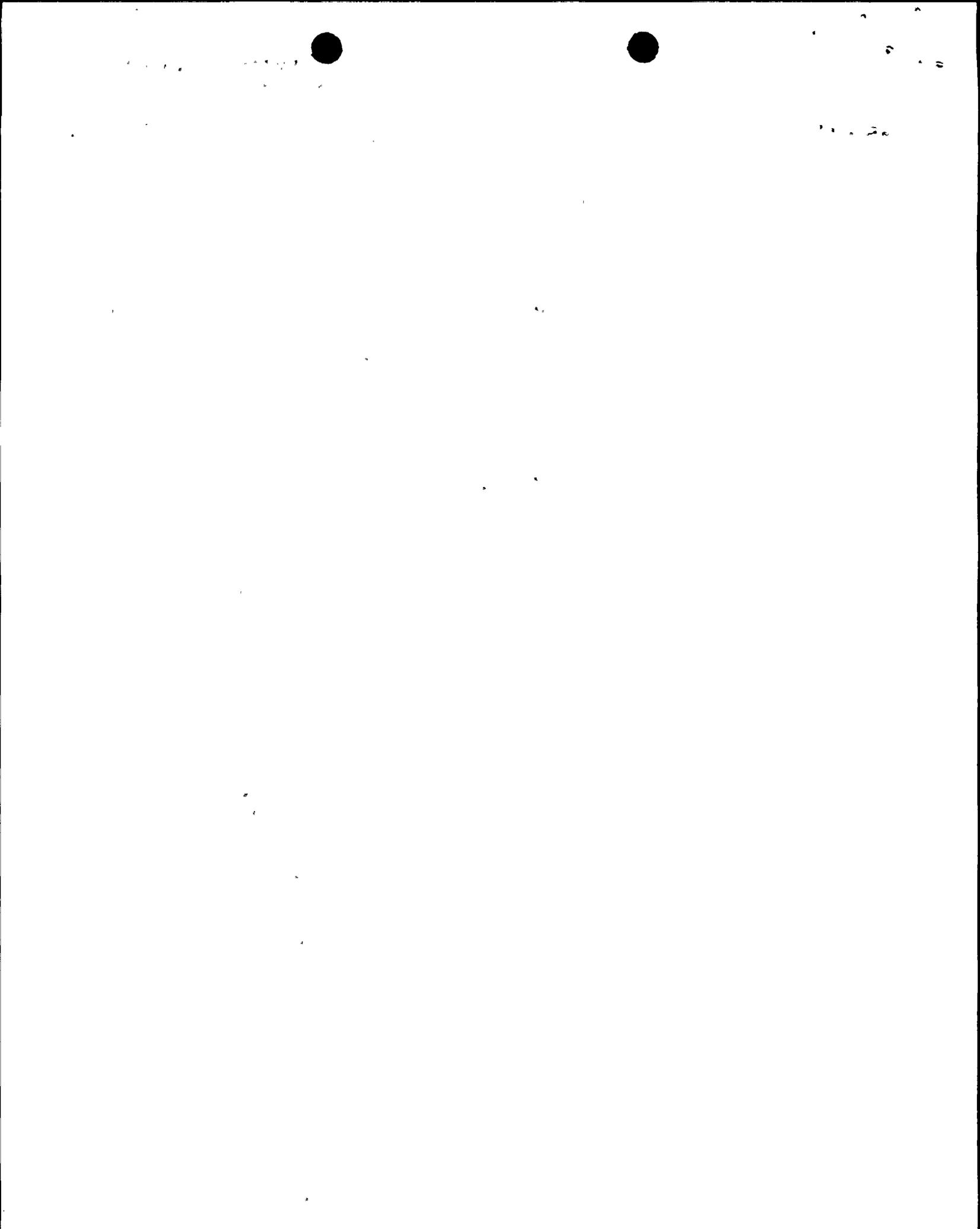
RELIEF REQUEST NUMBER 34 (Continued)

temperature exceeds 200 degrees F, then the relief valve is viewed as a weeper. With an 18 month fuel cycle, the completion of Code testing occurred over a period of 3 refuel cycles. This approach has resulted in maintenance and operational flexibility which has had the following benefits for Susquehanna:

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RELIEF REQUEST NUMBER 34 (Continued)

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