September 19, 2000

MEMORANDUM TO: Marsha K. Gamberoni, Section Chief
Project Directorate 1, Section 1
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

FROM: Eric W. Weiss, Section Chief **/RA/**
Fire Protection Engineering and Special Projects Section
Plant Systems Branch
Division of Systems Safety and Analysis
Office of Nuclear Reactor Regulation

SUBJECT: SUSQUEHANNA 1&2 - TECHNICAL SPECIFICATION AMENDMENT REGARDING MAXIMUM PATHWAY LEAKAGE FOR THE MAIN STEAM LINE ISOLATION VALVES (TAC NOS. MA9796 and MA9797)

Attached is a safety evaluation report (SER) prepared by the Plant Systems Branch for the technical specification (TS) amendment of the Susquehanna Steam Electric Station, Units 1 and 2. The proposed TS change would remove the “maximum pathway” from the surveillance requirement of SR 3.6.1.3.12 regarding the main steam line isolation valve leakage. We have reviewed the licensee’s submittal and concluded that the proposed change to the TS is acceptable.

We consider our efforts on TAC Nos. MA9796 and MA9797 to be complete.

Attachment: As stated

Docket Nos.: 50-387
50-388

CONTACT: J.S.GUO, SPLB/DSSA/NRR
301-415-1816

September 19, 2000

MEMORANDUM TO: Marsha K. Gamberoni, Section Chief
Project Directorate 1, Section 1
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

FROM: Eric W. Weiss, Section Chief **/RA/**
Fire Protection Engineering and Special Projects Section
Plant Systems Branch
Division of Systems Safety and Analysis
Office of Nuclear Reactor Regulation

SUBJECT: SUSQUEHANNA 1&2 - TECHNICAL SPECIFICATION AMENDMENT REGARDING MAXIMUM PATHWAY LEAKAGE FOR THE MAIN STEAM LINE ISOLATION VALVES (TAC NOS. MA9796 and MA9797)

Attached is a safety evaluation report (SER) prepared by the Plant Systems Branch for the technical specification (TS) amendment of the Susquehanna Steam Electric Station, Units 1 and 2. The proposed TS change would remove the “maximum pathway” from the surveillance requirement of SR 3.6.1.3.12 regarding the main steam line isolation valve leakage. We have reviewed the licensee’s submittal and concluded that the proposed change to the TS is acceptable.

We consider our efforts on TAC Nos. MA9796 and MA9797 to be complete.

Attachment: As stated

Docket Nos.: 50-387
50-388

CONTACT: J.S.GUO, SPLB/DSSA/NRR
301-415-1816

DISTRIBUTION: Central File SPLB R/F GHolahan RSchaaf
JHannon EWeiss JGuo

DOCUMENT NAME: G:\SPLB\SECTIOB\GUO\SUSQH.WPD

SPLB:DSSA	SPLB:DSSA
JSGuo	EWeiss
9/19/00	9/19/00

OFFICIAL RECORD COPY

ATTACHMENT

SAFETY EVALUATION BY THE PLANT SYSTEMS BRANCH
DIVISION OF SYSTEMS SAFETY AND ANALYSIS
OFFICE OF NUCLEAR REACTOR REGULATION
TECHNICAL SPECIFICATION CHANGE REGARDING
MSIV LEAKAGE FOR THE SUSQUEHANNA PLANT, UNITS 1 &2
(DOCKET NOS. 50-387 AND 50-388)

1. INTRODUCTION

By letter dated July 31, 2000, the licensee requested to change a portion of the technical specifications (TS) for Susquehanna Steam Electric Station, Units 1 and 2. The proposed change would delete the term "maximum pathway" from TS 3.6.1.3 for limiting condition for operation, SR 3.6.1.3.12 for surveillance requirements, and the applicable TS bases. The term "maximum pathway" was added to the TS in the TS amendment of August 1995 when the main steam line isolation valve (MSIV) leakage acceptance criteria was changed to 300 scfh from 46 scfh. Recently the licensee realized that the use of combined maximum pathway leakage for evaluating the as-found leakage is not consistent with 10CFR50, Appendix J and the Standard Technical Specifications. Therefore, the licensee requested to use the term "combined leakage" instead of "combined maximum pathway leakage" for evaluating the MSIV leak rate.

2. EVALUATION

The surveillance requirements of SR 3.6.1.3.12 require verification that the leakage rate through each MSIV is $\leq$100 scfh and $\leq$300 scfh for the combined maximum pathway leakage including the leakage from the MS line drains, when the MSIVs are tested at $\geq$22.5 psig or Pa and the MS line drains are tested at Pa. The test frequency is in accordance with the primary containment leakage rate testing program.

The licensee proposed to remove the "maximum pathway" from SR 3.6.1.3.12. The licensee stated in its submittal that the design basis accident (LOCA) dose analysis assumes 300 scfh of leakage through the MSIVs to the main condenser. When as-found MSIV leak rate testing is performed, the leak rate for each MSIV is determined. The total leakage that reachs the main condenser is the summation of the leakage that passes through both of the MSIVs in each of the four main steam lines. This leakage is the minimum pathway leak rate (MNPLR). The MNPLR is compared to the design basis to assess its operability and reportability. Applying the maximum pathway leak rate (MXPLR) is overly conservative and is not consistent with NEI 94-01 and standard technical specifications.

Regulatory Guide 1.163, "Performance-Based Containment Leak-Rate Test Program," issued in September 1995, endorses NEI 94-01, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J." NEI 94-01 (Rev. 0) provides methods acceptable to the NRC staff for complying with the alternate testing requirements of Option B in Appendix J to10 CFR Part 50. NEI 94-01, in its Testing Methodologies for Types A, B, and C tests, recommends that acceptance criteria for the combined as-found leakage rate for all penetrations subject to Type B and Type C testing be the same as that defined in

ANSI/ANS 56.8-1994, with the following additions: The combined as-left leakage rates determined on a MXPLR basis for all penetrations shall be verified to be less than 0.6 La prior to entering a mode where containment integrity is required following an outage or shutdown that included Type B and Type C testing only. The combined as-found leakage rates determined on a MNPLR basis for all penetrations shall be less than 0.6 La at all time when containment integrity is required.

The proposed change will use the as-found minimum pathway leakage (as compare to 300 scfh) for operability and reportability determinations. The as-left maximum pathway leakage will continue to be below 300 scfh . The staff finds that the use of “combined leakage” to evaluate the MSIV leak rate complies with the Option B performance-based requirements of Appendix J to10CFR50 and is acceptable. The change also conforms with the standard technical specifications.

3. CONCLUSION

On the basis of its review, the staff concludes that deletion of the “maximum pathway” from TS 3.6.1.3, SR 3.6.1.3.12, and its applicable bases is acceptable.