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SUBJECT: Forwards application for amends 195 & 153 to licenses NPF-14 & NPF-22, proposing changes to SSES Units 1 & 2 TS 3.6.1.2 re primary containment leakage testing.

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**SUSQUEHANNA STEAM ELECTRIC STATION
PROPOSED AMENDMENT NO. 195 TO LICENSE NPF-14 AND
PROPOSED AMENDMENT NO. 153 TO LICENSE NPF-22:
MAIN STEAM ISOLATION VALVE LEAK TESTING
PLA-4411 FILES R41-1/A17-2**

Docket Nos. 50-387
and 50-388

The purpose of this letter is to propose changes to Susquehanna SES Units 1 and 2 Technical Specification 3.6.1.2, concerning primary containment leakage testing. Currently, Susquehanna Technical Specifications provide for leak rate testing of the Main Steam Isolation Valves (MSIVs) at 22.5 psig. The proposed Technical Specification change maintains this test pressure as an option, but allows testing to be performed at 45.0 psig as an alternative. Adequate testing can be performed at either pressure. System configurations at the time of testing will dictate which test pressure is used.

The attached analysis discusses the safety basis for the proposed Technical Specification change and concludes that the change involves no significant hazards. The change has been reviewed by the Plant Operations Review Committee and the Susquehanna Review Committee. We are committed to making this change to increase MSIV leak testing flexibility while maintaining test effectiveness.

We would like to implement the proposed change in support of our upcoming refueling outage on Susquehanna Unit 1. As a result, we ask that the NRC complete its review by August 2, 1996. Any questions regarding this request should be directed to Mr. Terence Bannon at (610) 774-4019.

Very truly yours,



R. G. Byram

Attachment

140019

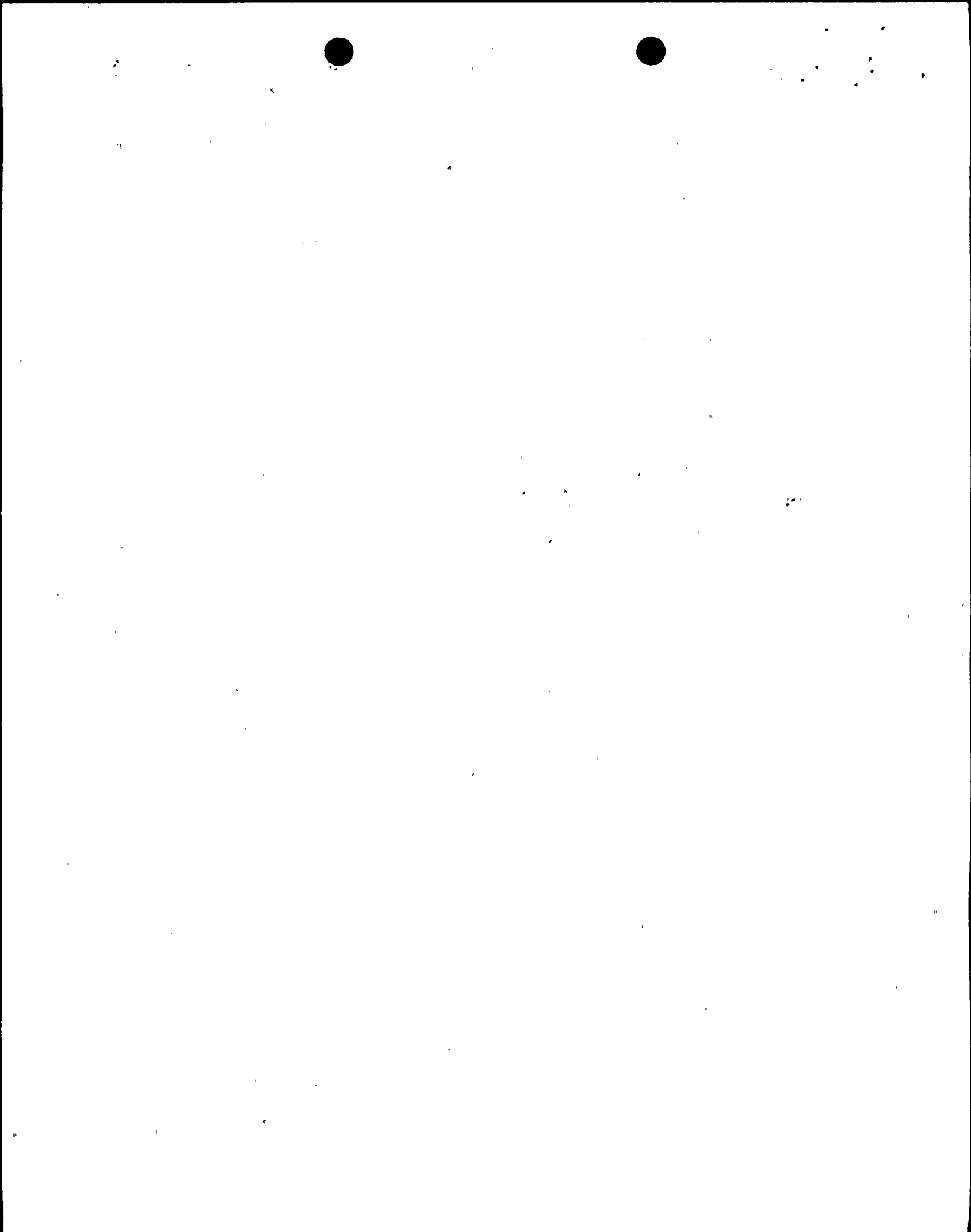
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Mr. C. Poslusny, Jr., NRC Sr. Project Manager
Mr. W.P. Dornsife, Pa. DEP



SAFETY ASSESSMENT MAIN STEAM ISOLATION VALVE LEAK TESTING

BACKGROUND

Current Susquehanna Technical Specification 3.6.1.2c. requires local leak rate testing of Main Steam Isolation Valves (MSIVs) at 22.5 psig (P_t). This MSIV testing methodology reflects an approved Exemption to 10 CFR 50 Appendix J. The exemption allows for testing in between the inboard and outboard MSIVs at 22.5 psig. However, during certain system configurations, an alternate test method can be used with greater testing efficiency. During periods when the main steam line plugs are installed, leak testing of the MSIVs can be accomplished at a test pressure of 45.0 psig (P_a) in the accident direction. This testing method is consistent with the requirements of 10 CFR 50 Appendix J.

The safety analysis presented here will show that leak testing of the MSIVs at P_a , consistent with Appendix J, is a safe alternative to testing at P_t .

DESCRIPTION OF CHANGE

The proposed change to the Susquehanna SES Unit 1 Technical Specification 3.6.1.2c. is as follows:

- c. *Less than or equal to 46 scf per hour for all four main steam lines through the isolation valves when tested at either P_t , 22.5 psig, or P_a .

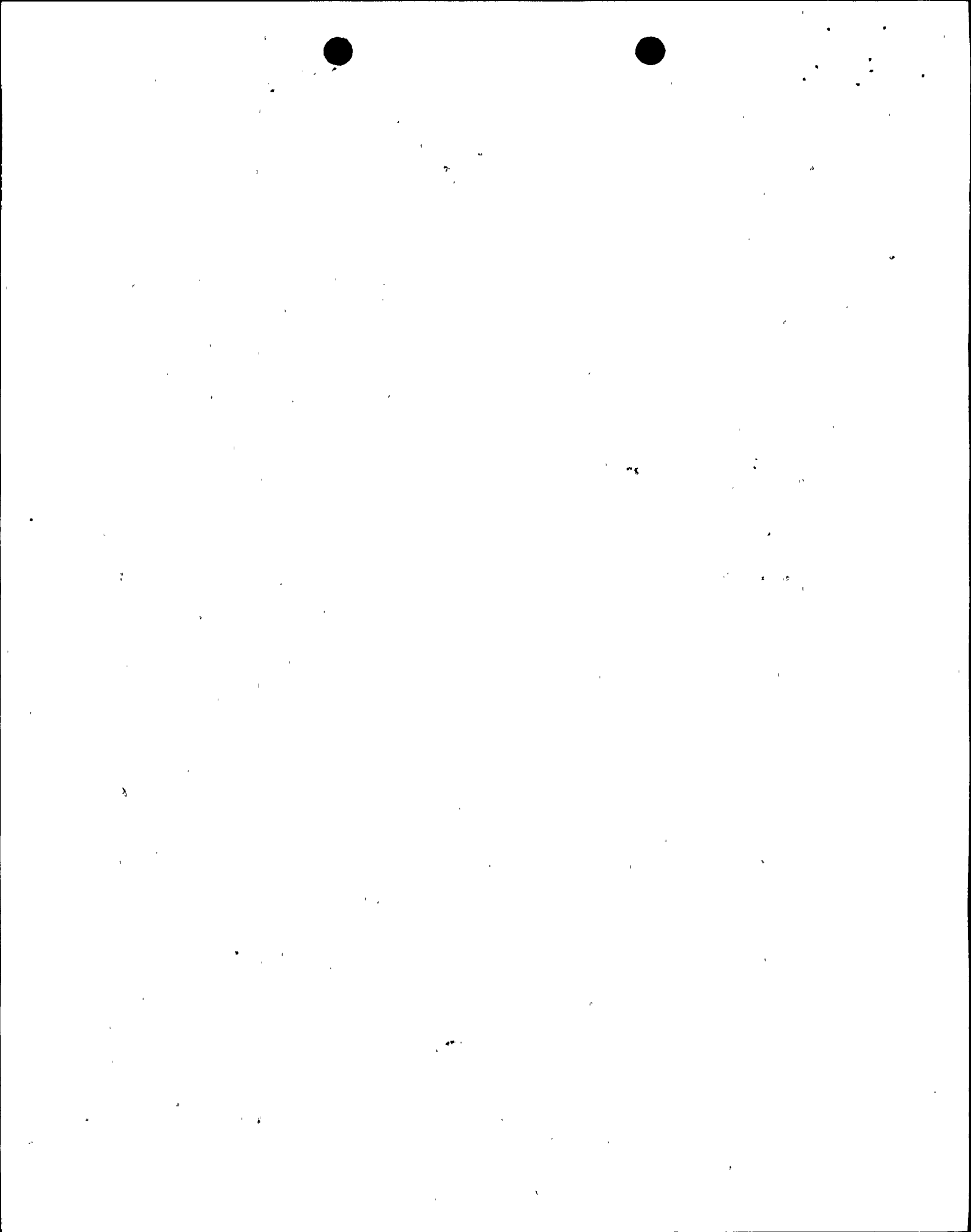
The proposed change to the Susquehanna SES Unit 2 Technical Specification 3.6.1.2c. is as follows:

- c. *Less than or equal to 100 scf per hour for any one main steam isolation valve and a combined maximum pathway leakage rate of 300 scf per hour for all four main steam lines through the isolation valves when tested at either P_t , 22.5 psig, or P_a .

A mark-up of each unit's Technical Specification section affected by the proposed change is included as an attachment to this analysis.

ASSESSMENT

The Code of Federal Regulations 10 CFR 50 Appendix J establishes requirements for containment leakage tests for all operating licensees for water-cooled power reactors. Three tests are specified in the regulation; Type 'A' (integrated leakage), Type 'B' (penetration local leakage), and Type 'C' (CIV local leakage), the last of which is the focus of the proposed



change. The regulation further specifies the test pressure, P_a , which should be used when performing air or nitrogen Type 'C' tests, and the direction of testing. PP&L maintains programs and procedures to perform Type 'C' tests, including testing the Main Steam Isolation Valves. PP&L was granted an exemption to 10 CFR 50 Appendix J to allow testing of the MSIVs at P_t as opposed to P_a . PP&L is now seeking to modify the acceptable test pressure requirement for performing MSIV leak testing by allowing testing at either P_t or P_a without modifying the acceptance criteria. The following analysis provides the basis for the proposed Technical Specification change.

Safety Analysis:

The proposed testing of the MSIVs in the accident direction at P_a (45 psig) complies with the requirements of 10 CFR 50 Appendix J. However, it is only possible to test the MSIVs at P_a during a refuel outage when the main steam line plugs are installed and the system is properly configured. FSAR Section 6.2.6 addresses P_a testing of the MSIVs with the main steam line plugs installed. The option to perform MSIV testing at P_t (22.5 psig) is still desired for post-maintenance testing and situations when the main steam line plugs are not installed.

There is no increased risk of failure or of leakage exceeding the Technical Specification limits for the MSIVs when testing at P_a . All components within the test volume have been evaluated for structural integrity under test pressure conditions. In addition, precautions will be taken to ensure the Main Steam Line Plugs are properly installed and monitored to prevent over pressurization and mitigate the consequences of a Main Steam Line Plug ejection. Pressurization of the Main Steam Line Plugs during testing will be below the evaluated pressure. There is also no increase in the potential for offsite dose as a result of testing the MSIVs at P_a in the accident direction. The acceptance criteria for the test is maintained at the higher test pressure, P_a . As a result, confidence in the leak tightness of the valves will be maintained.

Conclusions:

The proposed Technical Specification change to allow MSIV leak testing at either P_t (22.5 psig) or P_a (45.0 psig) is acceptable based on the following:

1. Leak testing at P_a in the accident direction is in conformance with 10 CFR 50 Appendix J.
2. There is no increased risk of failure or of leakage exceeding the Technical Specification limits for the MSIVs when testing at P_a .
3. The acceptance criteria for the test at either P_t or P_a is the same, thus MSIV leak integrity is maintained.

Therefore, allowing MSIV leak testing to be performed at P_t or P_a does not impact plant safety margins.

NO SIGNIFICANT HAZARDS CONSIDERATIONS

This analysis addresses the proposed change to Susquehanna SES Technical Specification 3.6.1.2, concerning primary containment leakage rates. The proposed Technical Specification change allows for the performance of Main Steam Isolation Valve (MSIV) leak testing at P_a (45.0 psig) in the accident direction. Testing at P_a is being added as an alternative to the currently allowable test pressure of P_t (22.5 psig).

- I. *This proposal does not involve a significant increase in the probability or consequences of an accident previously evaluated.*

The proposed change to the allowable test pressure for MSIV leak testing was reviewed from two perspectives. First is the potential for the change in testing pressure, and test methodology, to impact testing results. The second perspective is the potential for a failure of the testing configuration to result in undesirable consequences.

Under the proposed change, an increased test pressure of 45.0 psig (P_a) in the accident direction will be used to perform Technical Specification required MSIV leak testing. However, the acceptance criteria for testing is maintained consistent with current Technical Specifications. Therefore, the proposed change to allow a test pressure of P_a will not affect the validity of leak test results. The existing Technical Specification required leak integrity of the MSIVs will be maintained under the proposed test methodology and thus the ability of the MSIVs to act as containment isolation valves is not affected.

The proposed test pressure of P_a will be applied in the accident direction, and will result in a back pressure being applied to the Main Steam Line (MSL) Plugs. The potential for MSL Plug ejection has been reviewed and adequate precautions have been taken to ensure that fuel damage would not result from LLRT induced MSL Plug ejection. The MSL Plugs are installed using a restraint ring which prevents inadvertent ejection. PP&L procedures require that the restraint ring be installed as a prerequisite for LLRT testing of the MSIVs at P_a . However, in the unlikely event that the MSL Plug and restraint ring were installed improperly and then subjected to back pressurization at P_a , ejection could occur. If this event did occur, the MSL Plug could hit the fuel which is an accident bounded by the fuel assembly handling accident analysis addressed in FSAR Section 15.7.4. The MSL Plugs, MSL Plug Restraint Ring, and MSL Plug Insert and Remove Tool meet the requirements of NUREG 0612 and PP&L's Heavy Loads Program.

Therefore, the proposal to allow an alternative test pressure, P_a , does not involve a significant increase in the probability or consequences of an accident previously evaluated.

- II. *This proposal does not create the possibility of a new or different kind of accident from any accident previously evaluated.*

All components within the test volume have been evaluated for structural integrity under the proposed test pressures. In addition, pressurization of the Main Steam Line Plugs during testing will be below the evaluated pressure. The acceptance criteria for the test will be maintained, thus verification of the leak integrity of the MSIVs will not be impacted. Therefore, the proposed change to allow for an alternative test pressure of P_a does not create the possibility of a new or different kind of accident from any accident previously evaluated.

- III. *This change does not involve a significant reduction in a margin of safety.*

The proposed change does not affect the acceptance criteria for the MSIV LLRT. As a result, testing at P_a in the accident direction will provide an equivalent test to that which is performed at P_t . No change in the leak integrity of the MSIVs is anticipated as a result of performing the testing at the alternate pressure. The potential for MSL Plug ejection during MSIV LLRT at P_a has been evaluated and found to be bounded by existing accident analysis. Therefore the proposed change to allow an alternative test pressure, P_a , does not involve a significant reduction in a margin of safety.

ENVIRONMENTAL CONSEQUENCES

An environmental assessment is not required for the proposed change because the requested change conforms to the criteria for actions eligible for categorical exclusion as specified in 10 CFR 51.22(c)(9). The requested change will have no impact on the environment. The proposed change does not involve a significant hazards consideration as discussed in the preceding section. The proposed change does not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite. In addition, the proposed change does not involve a significant increase in individual or cumulative occupational radiation exposure.

IMPLEMENTATION

It is requested that this change be approved as soon as possible but no later than August 2, 1996, with implementation within 30 days of the date of issuance.

