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APR 10 2000

U. S. Nuclear Regulatory Commission
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Washington, D.C. 20555

SUSQUEHANNA STEAM ELECTRIC STATION
PROPOSED AMENDMENT NO. 195 TO LICENSE NO. NPF-22: EXIGENT REQUEST TO SUPPORT APRIL 8, 2000 RHR LLRT NOED
PLA-5180 **Docket No. 50-388**

Reference: *PLA-5179, B. L. Shriver to U.S. NRC, "Request for Enforcement Discretion: RHR Relief Valve Line Leak Testing," dated April 8, 2000.*

The purpose of this letter is to propose a one-time exigent change to the Susquehanna Steam Electric Station (SSES) Unit 2 Technical Specifications to reflect enforcement discretion granted by the NRC on April 8, 2000 at 1430 hours. The proposed change will allow Unit 2 operation to continue until an outage occurs where leak rate surveillance testing on spectacle flanges 2S299A and 2S299B can be performed.

Background

The RHR relief valve discharge line penetrations provide the relief path from the RHR Heat Exchanger (shell side) to the suppression pool. This penetration was originally also intended to provide the flowpath for the RHR steam condensing mode, which was removed from the plant design prior to initial plant operation.

During closeout of the Local Leak Rate Testing (LLRT) outage activities on the Unit 1 RHR relief valve line spectacle flange (1S299B), plant personnel questioned whether the design requires two or three o-rings per spectacle flange face. The spectacle flange on each face contains three grooves. The outer and inner grooves on each face are for the installation of o-rings. The middle groove is connected to the two LLRT test ports in the mating pipe flanges. Holes are drilled in the middle groove in two places through the spectacle flange to allow the LLRT test pressure to pressurize both faces using either test port of the spectacle flange. This allows both faces of the spectacle flange to be tested at one time.

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It has been determined, through a review of maintenance records, that o-rings have been installed in the middle grooves in addition to the two inner and outer grooves on both Unit 2 RHR relief valve line spectacle flanges. This configuration may restrict air flow from the test port into the volume between the inner and outer o-rings on both sides of the spectacle flange.

PPL has identified that the LLRT tests performed in accordance with Technical Specification SR 3.6.1.1.1 on the spectacle flanges in penetrations X246A and X246B, RHR relief valve discharge lines, may not be valid. SR 3.6.1.1.1 requires the following:

"Perform required visual examinations and leakage rate testing except for primary containment air lock testing, in accordance with the Primary Containment Leakage Rate Testing Program."

The PPL Primary Containment Leakage Rate Testing Program is defined in PPL Nuclear Department procedure NDAP-QA-0412, "Leakage Rate Test Program". Attachment B of the procedure identifies the subject penetrations and spectacle flanges. The above tests were performed with an additional spectacle flange o-ring installed. The additional o-ring may block the LLRT test port connection such that the pressure retaining ability of the inner and outer o-rings is not tested.

Basis for Amendment Request Under Exigent Circumstances

PPL is processing this request as an exigent change consistent with NRC Inspection Manual Part 9900 Enforcement Discretion guidance (as transmitted to licensees via NRC Administrative Letter 95-05, Revision 1, "Revisions to Staff Guidance for Implementing NRC Policy on Notices of Enforcement Discretion," dated February 19, 1999), which states:

"In cases where a license amendment is appropriate, the written request for the NOED should be followed within 48 hours by the licensee's request for a license amendment for NRC staff consideration under the provisions of 10 CFR 50.91. The licensee's amendment request must describe and justify the exigency."

Susquehanna SES Unit 2 is currently operating in Mode 1 at 100% power. The referenced April 8, 2000 enforcement discretion must be followed by an actual license amendment in order to avoid a unit shutdown to perform the required testing. As supported by the safety assessment provided with this request, a shutdown would create an undesirable transient on Unit 2 that is not justified by the low risk impact.

10 CFR 50.91 provides guidance on what information the NRC requires in support of an application for an exigent amendment.

1. First, it must be established that:

   "... a licensee and the Commission must act quickly and that time does not permit the Commission to publish a Federal Register notice allowing 30 days for prior public comment... ."

   This condition is met based on the fact that the request is being submitted as a result of the issuance of enforcement discretion, which must be promptly followed by an exigent amendment request.

2. Secondly, 10 CFR 50.91 requires the licensee to:

   "... explain the exigency and why the licensee cannot avoid it... ."

   The condition in question was identified on April 7, 2000 as a result of inspections conducted during the Unit 1 refueling outage. Technical Specification SR 3.0.3 was subsequently entered. Due to its nature, i.e., a potentially invalid surveillance driven by a review of maintenance records, it could not have been anticipated, and was therefore not avoidable. On April 8, the referenced request for enforcement discretion was submitted by PPL and verbally approved by the NRC.

Finally, this request has been submitted within the 48-hour guideline established by the aforementioned NRC guidance.

Supporting Information

Attachment 1 describes the specific Technical Specification changes, and provides the safety assessment supporting the proposed amendment.

Attachment 2 provides our No Significant Hazards Considerations and Environmental Consequences determinations. Collectively, these evaluations conclude that the proposed change will have no adverse safety or environmental impacts on Susquehanna Unit 2.

Attachment 3 provides marked-up and camera-ready copies of the affected Susquehanna Unit 2 Technical Specification page.

The proposed changes have been approved by the Susquehanna Plant Operations Review Committee and reviewed by the Susquehanna Review Committee.

We trust that this letter provides sufficient information to support your review and acceptance of this license amendment. Requests for further information should be directed to Mr. T. L. Harpster, Manager-Nuclear Licensing, at (610) 774-7504.

Sincerely,

R. G. Byram

Affidavit
Attachments (3)

Copy: USNRC Region I
Mr. S. L. Hansell, NRC Sr. Resident Inspector
Mr. R. G. Schaaf, NRC Sr. Project Manager
Mr. D. J. Allard, DEP/BRP

BEFORE THE
UNITED STATES NUCLEAR REGULATORY COMMISSION

In the Matter of :

PP&L, INC. : Docket No. 50-388

PROPOSED AMENDMENT NO. 195 TO LICENSE NO. NPF-22:
EXIGENT REQUEST TO SUPPORT APRIL 8, 2000 RHR LLRT NOED

SUSQUEHANNA STEAM ELECTRIC STATION
UNIT NO. 2

Licensee, PP&L, Inc., hereby files a revision to proposed Amendment No. 195 to its Facility Operating License No. NPF-22 dated March 23, 1984.

This amendment contains a revision to the Susquehanna SES Unit 2 Technical Specifications.

PPL, INC.
BY:

R. G. Byram
Sr. Vice President and Chief Nuclear Officer

Sworn to and subscribed before me
this 10 day of April , 2000.

Notary Public

Notarial Seal
Susan Grabowski-Tori, Notary Public
Allentown, Lehigh County
My Commission Expires Sept. 8, 2003

ATTACHMENT 1

SAFETY ASSESSMENT

PPL has determined that LLRT results may not be valid for SSES Unit 2 spectacle flanges 2S299A and 2S 299B due to the existence of an additional o-ring on each spectacle flange face that is not per design. PPL has determined that re-testing in the design configuration requires a unit shutdown. The purpose of the proposed change is to delay performance of this test on a one-time basis until the Unit 2 10th Refueling Outage (Spring 2001) or a prior Unit 2 outage requiring entry into Mode 4. This safety assessment establishes why the proposed change will not adversely impact the safe operation of Unit 2.

Proposed Change to Technical Specifications

It is proposed that the following note be added to SR 3.6.1.1.1:

"Not required to be performed on the 2S299A and 2S299B spectacle flange o-rings until the Unit 2 10th refueling outage (Spring 2001) or a prior Unit 2 outage requiring entry into Mode 4."

Marked-up and camera-ready copies of the affected Unit 2 Technical Specification page are provided in Attachment 3.

Safety Assessment

Background

During close-out of the Unit 1 LLRT of the 1S299B o-rings during the Unit 1 Refueling and Inspection Outage, the LLRT work crew questioned the design of the spectacle flange and o-rings (See the attached figure). The LLRT crew rotated the spectacle on April 6, 2000 and installed an o-ring in all 3 grooves on each side of the spectacle (per the work plan). The purpose of the spectacle is to provide a barrier to test against when performing the LLRT on the containment isolation valves.

These spectacle flanges are standard design. Installation of the o-rings is a standard routine evolution.

Research into the number of o-rings to be installed revealed that the design requires installation of 2 o-rings per flange: one o-ring in the inner groove and one o-ring in the outer groove. The purpose of the middle groove is to have a place to test the inner and outer o-rings and to tie together the flanges on either side of the spectacle. This allows the flanges on both sides of the spectacle to be tested at one time. With an o-ring (with grease) in the middle groove, it cannot be demonstrated positively that the containment boundary (i.e. the o-rings) has been adequately tested. The o-ring in the middle groove may adversely affect proper pressurization of the the inner and outer o-rings.

Since the work plan for the Unit 1 spectacle flange o-rings specified 3 o-rings per flange face in conflict with the design intent, the status of the o-rings in the Unit 2 spectacle flanges were checked. Based on a document review, it was identifed that 3 o-rings are installed on each side of the Unit 2 2S299A and 2S299B spectacle flanges. The documentation shows that in 1997 only 2 o-rings (inner and outer) were found per side when the spectacles were initially rotated to the closed position to perform the LLRTs on the RHR heat exchanger relief valves. When the spectacles were rotated back to the open position, 3 o-rings (inner, middle, and outer) were installed per side in accordance with the work plan.

LLRTs were performed after the spectacles were rotated to the open position.

Review of work plans from previous years indicates that three o-rings per face have typically been installed and tested.

The cause of the conflict between the work plans and the design is under investigation within the corrective action program.

The middle o-ring currently believed to be installed on both the 2S299A and 2S299B spectacle flanges should be removed in order to perform the LLRT as required. Removal of the middle o-ring would require breach of the primary containment boundary rendering the primary containment inoperable.

Testing was performed on a Unit 1 spectacle flange with the 3 o-rings installed on April 8, 2000. The results of that test showed that the middle o-ring did not block the flowpath. Additionally, an LLRT test was conducted with both the 3 o-ring and 2 o-ring configurations. The test results were comparable and acceptable.

Safety Impact

The impact to safety of continued operation without leakage rate testing for the affected penetrations has been evaluated. This evaluation is comprised of an assessment of the safety significance and potential consequences of the invalid tests, as well as, a discussion of

the potential risk associated with this condition. The following discussion demonstrates the safety significance, potential consequences, and risk associated with continued operation without leakage rate testing of the affected flanges, are low.

The existence of the third o-ring per face in spectacle flanges 2S299A and 2S299B does not affect the pressure retaining ability of the pipe flange to spectacle flange interface. The third o-ring does however, potentially affect the ability to positively confirm their performance. The presence of the third o-ring is likely to improve the pressure retaining capability of the pipe flange to spectacle flange interface. The spectacle flange is a static device that uses o-rings for sealing. The groove this third o-ring occupies is machined to the same dimensions as those grooves intended to house o-rings for sealing. The o-ring installed in the center groove is also of the same material and width as those intended for sealing. Since this additional o-ring meets the design and installation requirements for those intended for sealing, it should provide an additional barrier against leakage. The condition of the spectacle flanges with three o-rings is at least as good if not better than the double o-ring design. Therefore, the safety basis for this request is that the deficient condition does not degrade safety.

Even if the third o-ring results in some degradation in the seal performance, this degraded performance will not have an adverse impact on safety. Reviewing the history of these penetrations demonstrates that the performance of these seals is excellent (typically less than 20 SCCM on Unit 2). The administrative limit for these seals is 500 SCCM. Therefore the leakage caused by the third o-ring would have to increase by more than a factor of 25 to exceed the administrative limit. Such degradation in performance is inconsistent with the design of a passive o-ring seal.

In addition to the substantial margin between the actual seal leakage and the penetrations' administrative limit, there is substantial margin in the actual containment leakage. The current type B and C containment minimum pathway leakage is less than $0.05L_a$, a factor of 12 less than the type B and C containment leakage limit of $0.6L_a$. The leakage through these penetrations, caused by the presence of the third o-ring, would have to be 12 times greater than the sum of all other penetrations for this issue to represent a significant safety issue. Such a leakage rate is not considered credible for a passive o-ring seal.

Any containment atmosphere leakage would have to pass through either the suppression pool water (where it would be scrubbed) or leak through a blind flange. The termination in the airspace is capped with a blind flange inside containment and the submerged termination represents a water seal. Therefore, the flow area for leakage into these penetrations is very small, further limiting the magnitude of possible containment atmosphere leakage.

Any leakage through the o-ring seals would be directly into the reactor building, which is part of secondary containment, and would not in any way contribute to secondary containment bypass leakage. As a result, any leakage resulting from the current o-ring configuration would be filtered by the Standby Gas Treatment System (SGTS). SGTS is sized to treat the maximum allowable primary containment leakage rate of $1.0L_a$ (1% primary containment volume per day - reference FSAR Section 6.5.1.1.1), rather than the $0.6L_a$ test limit referenced above. Any additional leakage, beyond that measured during the o-rings associated LLRT, is not expected to result in a total primary containment leakage rate that is greater than the design capacity of SGTS. Thus, any leakage through these valves would be treated prior to its release to the environment.

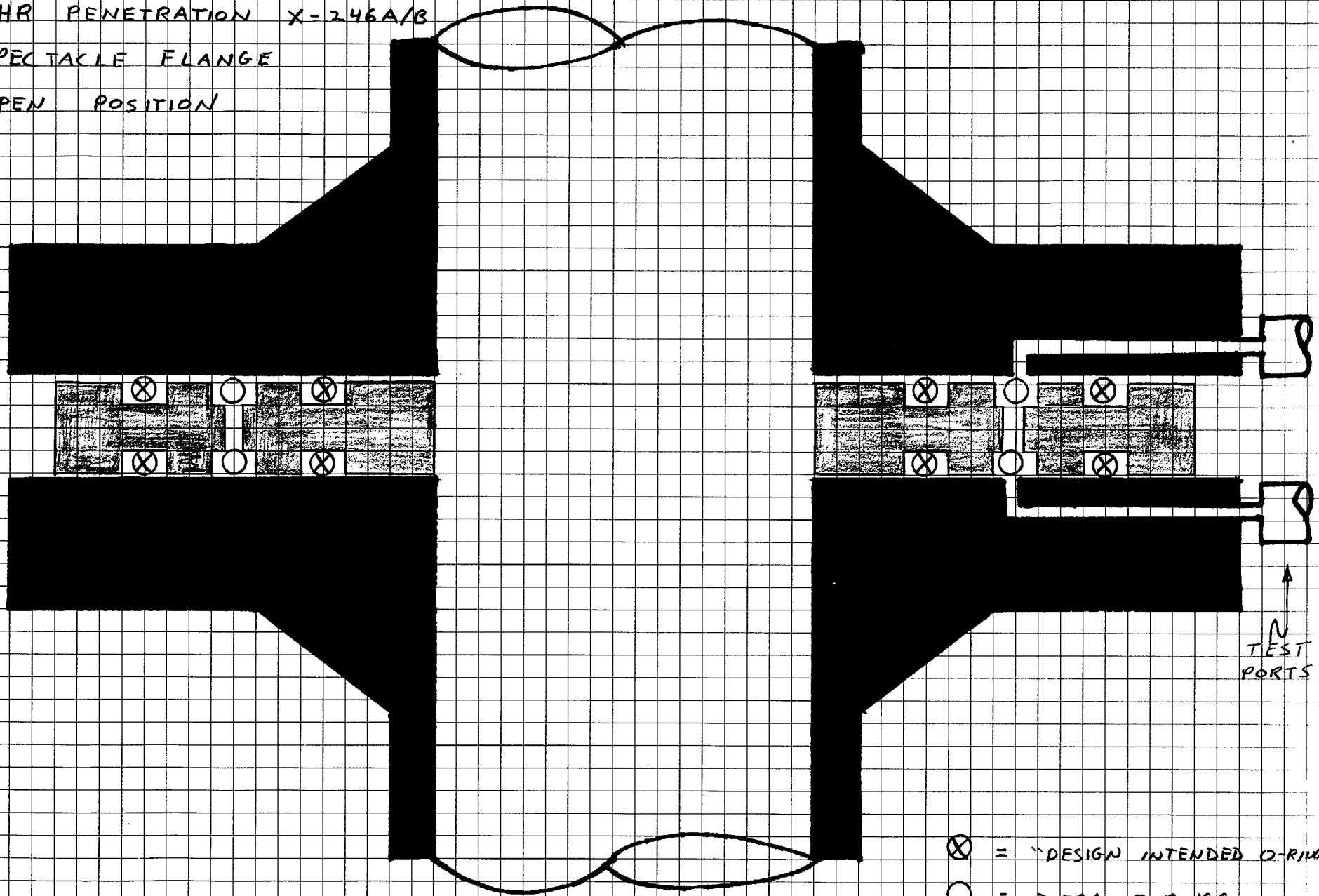
Given the expected improved seal performance due to the additional o-ring and the many layers of defense in depth discussed above, this one-time proposal to defer performance of the required testing for the duration specified will not have an adverse affect on the safe operation of SSES Unit 2.

SKETCH OF SPECTACLE FLANGE

RHR PENETRATION X-246A/B

SPECTACLE FLANGE

OPEN POSITION



⊗ = "DESIGN INTENDED O-RINGS"

○ = EXTRA O-RINGS IN TEST GROOVE

ATTACHMENT 2

NO SIGNIFICANT HAZARDS CONSIDERATIONS AND ENVIRONMENTAL CONSEQUENCES DETERMINATIONS

No Significant Hazards Considerations Determination

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

The presence of the third o-ring does not degrade and may improve the pressure retaining capability of the pipe flange to spectacle flange interface. The leakage through the subject lines is not adversely affected by the existence of the third o-ring; therefore the probability of any accident previously evaluated is not significantly increased. The o-rings are passive components and have no active safety function. Similarly, the potential consequences of an accident previously evaluated are not significantly increased by the existence of the third o-ring, since the pressure retaining capability of the pipe flange to spectacle flange interface is not degraded.

This proposal does not create the possibility of a new or different type of accident from any previously evaluated.

Since the pressure retaining capability of the pipe flange to spectacle flange interface is not affected by the existence of the third o-ring as discussed above, the proposed change does not create a new or different type of accident from any previously evaluated.

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

Since the pressure retaining capability of the pipe flange to spectacle flange interface is not affected by the existence of the third o-ring, the proposed change does not involve a significant reduction in a margin of safety.

Environmental Consequences Determination

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). PPL has performed an evaluation that concludes the potential leakage associated with the affected penetrations is not degraded by the existence of the third o-ring.

Therefore, the proposed change will have no adverse impact on the environment. The proposed change does not involve:

- A significant hazards consideration,
- A significant change in the types or significant increase in the amounts of any effluents that may be released offsite, nor
- A significant increase in the individual or cumulative occupational radiation exposure.

ATTACHMENT 3

MARKED-UP AND CAMERA-READY TECHNICAL SPECIFICATION PAGES

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.1.1	Perform required visual examinations and leakage rate testing except for primary containment air lock testing, in accordance with the Primary Containment Leakage Rate Testing Program.	In accordance with the Primary Containment Leakage Rate Testing Program.
SR 3.6.1.1.2	Verify that the drywell-to-suppression chamber bypass leakage is less than 0.00535 ft^2 at an initial differential pressure of ≥ 4.3 psi.	When performing 10 CFR 50 Appendix J, Type A testing, in accordance with the Primary Containment Leakage Rate Testing Program. AND -----Note----- Only required after two consecutive tests fail and continues until two consecutive tests pass ---------- 24 months

See inserted Note

Note to be added to SR 3.6.1.1.1

---NOTE---

Not required to be performed on the 2S299A and 2S299B spectacle flange o-rings until the Unit 2 10th Refueling Outage (Spring 2001) or a prior Unit 2 outage requiring entry into Mode 4.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
----------NOTE---------- Not required to be performed on the 2S299A and 2S299B spectacle flange o-rings until the Unit 2 10th Refueling Outage (Spring 2001) or a prior Unit 2 outage requiring entry into Mode 4. ----------		
SR 3.6.1.1.1	Perform required visual examinations and leakage rate testing except for primary containment air lock testing, in accordance with the Primary Containment Leakage Rate Testing Program.	In accordance with the Primary Containment Leakage Rate Testing Program.
SR 3.6.1.1.2	Verify that the drywell-to-suppression chamber bypass leakage is less than 0.00535 ft^2 at an initial differential pressure of $\geq$ 4.3 psi.	When performing 10 CFR 50 Appendix J, Type A testing, in accordance with the Primary Containment Leakage Rate Testing Program. AND -----Note----- Only required after two consecutive tests fail and continues until two consecutive tests pass ---------- 24 months