

**ATTACHMENT 1
SURRY POWER STATION UNIT 1
10CFR50 APPENDIX J TYPE C TESTING
EXEMPTION REQUEST AND
TECHNICAL SPECIFICATION CHANGE**

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DISCUSSION

Surry Unit 1 was shutdown for refueling April 9 through July 18, 1988 when Local Leak Rate Testing and the 18 month and refueling surveillance tests were last completed. In September 1988 the unit was shutdown again for an extended maintenance outage which lasted 299 days (approximately 10 months). During this outage modifications and testing were performed on the Emergency Diesel Generators, the Circulating and Service Water Systems and the Electrical Distribution System.

The Local Leak Rate Testing Program (Type C testing) was performed during the refueling outage and completed on June 23, 1988. Due to the subsequent extended maintenance outage, the next refueling outage is currently scheduled for the fourth quarter 1990. The interval between the refueling outages will exceed the 2 year requirement of the Appendix J. As stated in 10 CFR 50, Appendix J, Section III. D.3, local leak rate testing shall be performed during reactor shutdowns for refueling but in no case at an interval greater than two years. Therefore, an exemption to this Appendix J requirement in the form of a one-time extension of the interval is being requested. In addition to this exemption request, a request for a one-time Technical Specification change to provide the same relief is being requested. This exemption will prevent a premature shutdown of the reactor solely for testing.

A footnote will be added to T.S. 4.4.B.2 and 4.4.D denoting the Appendix J exemption.

EXEMPTION JUSTIFICATION

10 CFR 50.12 states that the Commission may grant exemptions from the requirements of the regulations contained in the 10 CFR 50 provide that: (1) the exemption as authorized by law: (2) the exemption will not present an undue risk to the public health and safety: (3) the exemption is consistent with the common defense and security: and, (4) special circumstances as defined in 10 CFR 50.12(a)(2), are present.

1. The Requested Exemption is Authorized by Law

No law exists which would preclude the activities covered by this exemption request, thus the Commission is authorized to grant this exemption.

2. The Requested Exemption Does Not Present an Undue Risk to the Public Health and Safety

10 CFR 50 Appendix J states that the purpose of the regulation is to assure that leakage through primary containment does not exceed allowable values, as specified in the Technical Specifications, and that proper maintenance and repair are performed throughout the service life of the containment boundary components. The requested exemption is consistent with the purpose of the regulation and the intent of the two year LLRT testing rule. The exemption requests a one-time extension until the Cycle 10 refueling outage when containment integrity is not required. The refueling outage is currently scheduled for the fourth quarter of 1990. The LLRTs shall be performed during

reactor shutdown, as required, to assess compliance with the Technical Specification allowable leakage values and assure that any required maintenance or repairs are performed. The intent of Section III.D.3 of Appendix J is that testing be performed at refueling outages but not to exceed two years of power operation. Since two years of power operation will not have occurred, extending the two-year interval is consistent with this intent. Based upon the following information, the requested exemption will not significantly impact the ability of primary containment to contain post-accident leakage to within Technical Specification limits, as required.

- a. Our LLRT Program has undergone significant changes and improvements. In 1986-88 timeframe we increased efforts to minimize Type C leakage by improving test procedures and methods, conducting supplemental LLRTs on penetrations that have been poor performers, making modification to selected penetrations. The latest Type B and C test results are currently 57 SCFH where 0.6 La is 180 SCFH.
- b. After the last LLRTs were conducted on the components during the last refueling outage (April-July 1988) the plant operated for approximately two months and then was shutdown for approximately 10 months for maintenance. Therefore the actual in-service period during power operation for the majority of the components will be less than the two-year maximum allowable interval that is implied in the regulation.
- c. As stated in our Technical Specifications, primary containment integrity and compliance with the allowable leakage rates are not required when the reactor is in cold shutdown. We interpret this to mean that an exemption would not be necessary in the event that components subject to Type C tests are not tested within the two years if the interval expires during cold shutdown and the tests are completed prior to restart.

3. The Requested Exemption Will Not Endanger the Common Defense and Security

The common defense and security are not an issue in this exemption request.

4. Special Circumstances are Present Which Necessitate the Request for an Exemption to the Regulations of 10 CFR 50 Appendix J, Section III.D.3

Per 10 CFR 50.12(a)(2), the following special circumstances are present:

- a. Application of the regulation in the particular circumstances would not serve the intent of the regulation. The intent of the regulation is to assure performance of LLRTs after two years of power operation. Surry Unit 1 will not achieve two years of power operation until April 1991, well beyond the scheduled refueling outage (fourth quarter 1990). Thus the time requested does not conflict with the intent of the regulation, and deferring the Appendix J LLRT requirements until the next scheduled refueling outage in fourth quarter of 1990 is appropriate.

- b. Compliance with the regulation would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted. The intent of the regulation is that the required testing be performed during normal refueling outages, except in some unusual situations when the two-year operating limit would apply. A requirement for shutdown to comply with the two-year testing requirement, even though the plant has not accumulated two full years of power operation, would result in undue hardship and excessive costs in the form of lost revenues due to plant shutdown, and higher costs associated with two outages rather than one. Increasing the LLRT testing interval in this case also eliminates one heatup and cooldown cycle and lowers the probability of events which are likely during such plant evolutions.

- c. The exemption would provide only temporary relief from the applicable regulation and we have made a good faith effort to strictly comply with the regulation. The exemption being requested is a one-time exemption (until the fourth quarter of 1990) for the LLRT testing requirement due to the 10 month major maintenance outage during Cycle 10. The request is not the result of any negligence on our part as we have always performed the test during refueling outages as intended by the regulation.

SIGNIFICANT HAZARDS CONSIDERATION

Virginia Electric and Power Company has reviewed the proposed changes against the criteria of 10 CFR 50.92 and has concluded that the changes as proposed do not pose a significant hazards consideration. Specifically, the proposed change clarifies the Technical Specifications to reflect the exemption request which would provide a one-time extension of the two-year period for Appendix J LLRT testing requirement. Thus, operation of the Surry Power Station in accordance with the proposed changes will not:

1. Involve a significant increase in the probability of occurrence or consequences of any accident or malfunction of equipment which is important to safety and which has been evaluated in the UFSAR because extending the LLRTs does not effect the probability of occurrence of accidents, nor will degradation of equipment occur that would change the consequences of an accident. The proposed change is consistent with the intent of the regulation to test within two years of power operation.
2. Create the possibility of a new or different type of accident from those previously evaluated in the safety analysis report. Physical plant modifications are not being made and plant operations are not being changed. Consequently the systems' ability to perform its intended function will be maintained, no new accident precursors are being generated and therefore no new or different kind of accident is created.
3. Involve a significant reduction in the margin of safety. Plant operations are not being changed nor are any of the accident analysis assumptions being modified or exceed by this change. The deferral of the LLRTs will not result in significant degradation of equipment in that the equipment will be in service for about the same time as a normal 18 month operating cycle. Therefore, the accident analysis assumptions remain bounding and safety margins remain unchanged.

- b. The leakage rate test will be performed at a pressure of at least 39.2 psig (P_a).
 - c. The measured leakage rate L_{am} shall not exceed 75% of the design basis accident leakage rate (L_a) of 0.1 weight percent per 24 hours at pressure P_a .
2. Type B and C tests will be performed at a pressure of at least 39.2 psig (P_a) in accordance with the provisions of Appendix J, Section III.B and C.* Also, within 72 hours after use of the personnel airlock, the seals will be tested at least at the peak calculated accident pressure to verify that they are properly sealed.

C. Acceptance Criteria

Type A, B, and C tests will be considered to be satisfactory if the acceptance criteria delineated in Appendix J, Sections III.A.5(b), III.B.3, and III.C.3 are met.

D. Retest Schedule

The retest schedules for Type A, B, and C tests will be in accordance with Section III.D of Appendix J.*

E. Inspection and Reporting of Tests

Inspection and reporting of tests will be in accordance with Section V of Appendix J.

* Type C testing for Unit 1 can be deferred beyond the 2 year Appendix J requirement until the end of Operating Cycle 10 in accordance with the NRC exemption received on _____.

**ATTACHMENT 2
SURRY POWER STATION UNIT 1
TECHNICAL SPECIFICATION CHANGE REQUEST
ONE-TIME EXTENSION OF
SURVEILLANCE REQUIREMENTS**

DISCUSSION

Surry Unit 1 was shutdown for refueling April 9 through July 18, 1988 when the Local Leak Rate Testing and the refueling and 18 month surveillance tests were last completed. In September 1988, the unit was shutdown again for an extended maintenance outage which lasted 299 days (approximately 10 months). During this outage, modifications and testing were performed on the Emergency Diesel Generators, the Circulating Water System and the Electrical Distribution System.

During the refueling outage, accessible and inaccessible snubbers were visually inspected with no inoperable snubbers identified. A 10% sample of each snubber type was also functionally tested with no failures identified. The snubbers were visually inspected twice again during the subsequent extended maintenance outage. One snubber was found with a low fluid level due to minor leakage during the first inspection and no failures were identified during the second inspection conducted prior to the Unit 1 startup (July 1989). Based upon the previous inspection results, the next visual inspection is due September 19, 1990 (12 months +25%) and the next functional inspection is due April 17, 1990 (18 months +25%). The maintenance history program has been reviewed to ensure that the snubber's seal life would not be exceeded with the extended operation. The earliest required seal replacement would occur in March 1991.

The 18 month and refueling outage surveillance requirements were completed during the refueling outage and some requirements were reperformed during the extended maintenance outage. The majority of these surveillances are identified as "refueling" surveillance and will be delayed until the scheduled refueling outage in the fourth quarter of 1990. Of the few surveillance requirements designated as 18 month, only one surveillance can not be completed at power. The remaining 18 month surveillances will be completed on schedule. Technical Specification requirement 4.5.C requires each weight loaded check valve in the Containment Spray and Recirculation Spray Systems to be cycled and verified open on air pressure and seated with a vacuum. In order to perform this surveillance scaffolding must be erected in containment, test equipment installed in containment and containment integrity breached for the time of the test. Performing this test in a subatmospheric containment would cause undue risk for the personnel involved. These spray systems are normally dry and will only operate if there is a high containment pressure condition (CLS signal). The valves were operable when the unit was returned to service and there is no reason to believe that the valves would not function as required or that postponing the surveillance until the refueling outage would increase the probability of an inoperable valve. In addition, we believe this surveillance was intended to be performed on a refueling frequency and will be separately proposing a permanent change to the Technical Specification to make the surveillance a refueling requirement.

SIGNIFICANT HAZARDS CONSIDERATION

Virginia Electric and Power Company has reviewed the proposed changes against the criteria of 10 CFR 50.92 and has concluded that the changes as proposed do not pose a significant hazards consideration. Specifically, this Technical Specification change would provide a one-time extension for 1) the snubber visual and functional inspection frequencies and 2) the one 18 month surveillance testing requirements that can not be performed at power. Thus, operation of the Surry Power Station in accordance with the proposed changes will not:

1. Involve a significant increase in the probability of occurrence or consequences of any accident or malfunction of equipment which is important to safety and which has been evaluated in the UFSAR because extending the snubber inspection frequency or the 18 month surveillance test interval does not effect the probability of occurrence of accidents, nor should significant equipment degradation occur that would change the consequences of an accident.
2. Create the possibility of a new or different type of accident from those previously evaluated in the safety analysis report. Physical plant modifications are not being made nor are plant operations are being changed. The systems' ability to perform its intended function will be maintained, consequently new accident precursors are not being generated, therefore no new or different kind of accident is created.
3. Involve a significant reduction in the margin of safety. Plant operations are not being changed nor are any of the accident analysis assumptions being modified or exceed by this change. The deferral of the snubber inspections or the 18 month surveillances will not result in significant degradation of the equipment. Therefore, the accident analysis assumptions remain bounding and safety margins remain unchanged.

2. By verifying that each motor-operated valve in the recirculation spray flow paths performs satisfactorily when tested in accordance with Specification 4.0.3.
 3. At least once per 5 years, coincident with the closest refueling outage, by performing on air or smoke flow test and verifying each spray nozzle is unobstructed.
- C. Each weight-loaded check valve in the containment spray and outside containment recirculation spray subsystems shall be demonstrated operable at least once per 18 months,* during shutdown, by cycling the valve one complete cycle of full travel and verifying that each valve opens when the discharge line of the pump is pressurized with air and seats when a vacuum is applied.
- D. A visual inspection of the containment sump and the inside containment recirculation spray pump wells and the engineered safeguards suction inlets shall be performed at least once each refueling period and/or after major maintenance activities in the containment. The inspection should verify that the containment sump and pump wells are free of debris that could degrade system operation and that the sump components (i.e., trash racks, screens) are properly installed and show no sign of structural distress or excessive corrosion.

Basis

The flow testing of each containment spray pump is performed by opening the normally closed valve in the containment spray pump recirculation line returning water to the refueling water storage tank. The containment spray pump is operated and a quantity of water recirculated to the refueling water storage tank. The discharge to the tank is divided into two fractions; one for the major portion of the recirculation flow and the other to pass a small quantity of water through test nozzles which are identical with those used in the containment spray headers. The purpose of the recirculation through the test nozzles is to assure that there are no particulate material in the refueling water storage tank small enough to pass through pump suction strainers and large enough to clog spray nozzles.

* This Unit 1 test requirement can be extended to the Cycle 10 refueling outage.

<u>No. Inoperable Snubbers Per Inspection Period</u>	<u>*Subsequent Visual Inspection Period</u>
0	18 months \pm 25%
1	12 months \pm 25% #
2	6 months \pm 25%
3, 4	124 days \pm 25%
5, 6, 7	62 days \pm 25%
8 or more	31 days \pm 25%

2. The snubbers may be categorized into two groups: Those accessible and those inaccessible during reactor operation. Each group may be inspected independently in accordance with the above schedule.

B. Visual Inspection Acceptance Criteria

1. Visual inspections shall verify:
- That there are no visible indications of damage or impaired operability,
 - Attachments to the foundation or supporting structure are secure, and
 - In those locations where snubber movement can be manually induced without disconnecting the snubber, that the snubber has freedom of movement and is not frozen up.

* The inspection interval shall not be lengthened more than one step at a time.

The current inspection period for Unit 1 may be extended to the Cycle 10 refueling outage.

2. Snubbers which appear inoperable as a result of visual inspections may be determined operable for the purpose of establishing the next visual inspection interval, providing that the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers that may be generically susceptible and the affected snubber is functionally tested in the as-found condition and determined operable per Specification 4.17-D or 4.17-E, as applicable.
3. When the fluid port of a hydraulic snubber is found to be uncovered, the snubber shall be determined inoperable and cannot be determined operable via functional testing for the purpose of establishing the next visual inspection interval. All snubbers connected to an inoperable common hydraulic fluid reservoir shall be counted as inoperable snubbers.

C. Functional Tests

1. At least once per 18 months during shutdown, a representative sample of 10% of the total of each type of snubber used in the plant shall be functionally tested either in place or in a bench test.#
2. The representative sample selected for functional testing shall include the various configurations, operating environments and the range of size and capacity of snubbers. This representative sample shall not, to the extent practicable, include those snubbers tested in a previous representative sample.
3. At least 25% of the snubbers in the representative sample shall include snubbers from the following three categories:
 - a. The first snubber away from each reactor vessel nozzle
 - b. Snubbers within 5 feet of heavy equipment (valve, pump, turbine, motor, etc.)

The Unit 1 function inspection period can be extended until the Cycle 10 refueling outage.

**ATTACHMENT 3
SURRY POWER STATION UNITS 1 AND 2
ATWS/AMSAC INSTALLATION**

DISCUSSION

The final rule for Anticipated Transients Without a SCRAM (ATWS) (10 CFR 50.62) was published on June 1, 1984, and required installation of equipment to decrease the probability of an ATWS. In April 1986 the NRC issued a Generic Letter which provided the Quality Assurance guidance for AMSAC. NRC's approval of the Westinghouse generic design was provided on July 6, 1986. Virginia Electric and Power Company submitted its plant specific design information and installation schedule by July 31, 1987. The installation schedule was designated as the end of cycle 10 for both Units which at that time was Fall 1989 and Spring 1990 for Units 1 and 2 respectively. Our justification for this installation schedule was based on the amount of engineering yet to be completed, due to a change in the logic scheme we intended to use, and the long lead time for the ATWS panels and controllers.

With the extended outages for both Units in 1988 and 1989, our engineering resources, including A/E support, were strained to support the dual unit outage. Management decisions were made to focus station and engineering resources on the existing outage, removing the engineering resources from long term and refueling outage related projects. The ATWS/AMSAC design change package was given a lower priority based on our commitment to install the equipment during the Cycle 10 refueling outages for both Units. Due to this decision the ATWS equipment design and fabrication was not completed in time to procure, install and test during the past extended Unit 1 or 2 outages.

The ATWS equipment for Unit 1 has been delivered and the pre-outage work to support installation could possibly be completed by May 1990. Similarly, the Unit 2 equipment is scheduled for delivery by January 31, 1990 and the pre-outage work could be completed by August 1990. However, to tie-in and fully test AMSAC and the existing equipment (instrument circuits) affected by the tie-ins would require as a minimum a 22 day outage for each unit.

To eliminate the need for a mid-cycle outage on each unit to install the ATWS equipment, we are requesting that the installation schedule for the ATWS/AMSAC be maintained as the end of the Cycle 10 refueling outages. These outages are currently scheduled for the fourth quarter 1990 and second quarter 1991 for Units 1 and 2 respectively. Shutting down either unit in mid-cycle solely to install the ATWS equipment would result in a revenue loss of approximately \$320,000/day. Additionally, if required to take mid-cycle outages consistent with the above schedule for equipment delivery and pre-outage work, the outages would most likely coincide with times of higher generation demand during the summer when alternate power supplies are least available.

Delaying the installation of AMSAC on either unit will not create an unreviewed safety question nor create a significant safety hazards consideration. 10 CFR 50.62 required installation of the ATWS/AMSAC equipment by the second refueling after July 26, 1984. Due to the delay in issuance of the NRC's SER on the generic Westinghouse design the date was informally extended to the third refueling outage after July 26, 1984 but no later than July 31, 1989 without justification. We provided the necessary justification, as noted above, which would have permitted plant operation until the end

of Cycle 10 for both Units 1 and 2, at that time scheduled for Fall 1989 and Spring 1990 respectively. Postponing the installation of ATWS/AMSAC until the new Cycle 10 refueling outages dates (fourth quarter 1990 and second quarter 1991 for Units 1 and 2 respectively) will not increase the overall risk because unit operating times without ATWS/AMSAC will not have increased.