

February 8, 1977

Docket No.: 50-280

Virginia Electric & Power Company
ATTN: Mr. W. L. Proffitt
Senior Vice President - Power
P. O. Box 26666
Richmond, Virginia 23261

Gentlemen:

Enclosed is a signed original of an Order for Modification of License, dated February 8, 1977, issued by the Commission for the Surry Power Station Unit No. 1. This Order amends Facility Operating License DPR-32 permitting continued operation of Surry Unit No. 1 for 60 effective days of operation, beyond midnight of February 8, 1977, and relates to the steam generator repair program license conditions of License Amendment No. 29 of January 19, 1977.

A copy of the Order is being filed with the Office of the Federal Register for publication.

Sincerely,

original signed by

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

Enclosure:
Order for Modification
of License

cc w/enclosure: See next page

*J. SCIUNTO
CONCURRED
BY PHOWE
AT 8:00 PM
FEB. 8, 1977
BY MBF*

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Virginia Electric & Power Company

cc w/enclosure(s):
Michael W. Maupin, Esq.
Hunton, Williams, Gay & Gibson
P. O. Box 1535
Richmond, Virginia 23213

Swem Library
College of William & Mary
Williamsburg, Virginia 23185

Mr. Sherlock Holmes, Chairman
Board of Supervisors of Surry County
Surry County Courthouse
Surry, Virginia 23683

Chief, Energy Systems
Analyses Branch (AW-459)
Office of Radiation Programs
U. S. Environmental Protection Agency
Room 645, East Tower
401 M Street, S.W.
Washington, D.C. 20460

U. S. Environmental Protection Agency
Region III Office
ATTN: EIS COORDINATOR
Curtis Building (Sixth Floor)
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

Commonwealth of Virginia
Council on the Environment
903 9th Street Office Building
Richmond, Virginia 23219

safe operation of the facility. This evaluation is set forth in the staff's Safety Evaluation relating to steam generator tube integrity which is in preparation.

With respect to the effect of increased stress in the tube support plate as a result of tube support plate growth, the staff has concluded that neither buckling of the tube support plate nor damage to the steam generator shell through the wrapper and channel spacer would develop.

Continued growth of the tube support plate continues to impose stresses on the tubes and may result in the development of stress corrosion cracks in denting locations. The staff has considered the effect of the development of stress corrosion cracking during the course of operation of this facility, and has assessed the effect of such cracks in conjunction with steam line break and loss of coolant accident events. The staff has concluded that under the additional limitations on tube leakage set forth in this order, the effect of continued denting on the consequences of the steam line break event would be a fraction of Part 100, and the effect on continued denting on LOCA events would not be significant. These events are of extremely low probability, and would be especially so for the limited period covered by this Order. The additional limitations set forth in this Order will provide reasonable assurance that the public health and safety will not be endangered.

After discussion with the staff the licensee has proposed to modify the limitations applicable to this facility in the manner set forth in this Order. The NRC staff believes that the licensee's actions, under the circumstances are appropriate and should be confirmed by NRC order.

Copies of the following documents are available for public inspection in the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C., 20555 and at the Swem Library, College of William and Mary, Williamsburg, Virginia, (1) Licensee's submittals of October 25, 1976, January 3 and 14, 1977, and February 4, 1977, (2) License Amendment No. 29 to DPR-32 dated January 19, 1977, and (3) this Order for Modification of License, In the Matter of Virginia Electric and Power Company, Surry Power Station Unit 1, Docket No. 50-280.

III.

Accordingly, pursuant to the Atomic Energy Act of 1954, as amended, and the Commission's Rules and Regulations in 10 CFR Parts 2 and 50, IT IS ORDERED THAT Facility Operating License No. DPR-32 are hereby amended by adding the following new provisions:

1. Unit No. 1 shall be brought to the cold shutdown condition in order to perform an inspection of the steam generators within 60 equivalent days of operation from February 8, 1977. Nuclear Regulatory Commission approval shall be obtained before resuming power operation following this inspection.

For the purpose of this requirement, equivalent operation is defined as operation with a primary coolant temperature

- greater than 350°F.
2. Primary system leakage shall be limited to 1.0 gpm and primary to secondary leakage through the steam generator tubes shall be limited to 0.3 gpm per steam generator, as described in the Safety Evaluation. With any steam generator tube leakage greater than this limit the reactor shall be brought to the cold shutdown condition within 24 hours.
 3. Reactor operation will be terminated if primary to secondary leakage which is attributable to 2 or more tubes occurs during a 20 day period. Nuclear Regulatory Commission approval shall be obtained before resuming reactor operation.
 4. The concentration of radioiodine in the primary coolant shall be limited to 1 μ Ci/gram during normal operation and to 30 μ Ci/gram during power transients as defined in the Safety Evaluation.
 5. The information requested in Appendix A to this Order will be supplied by the licensee within 45 days of the date of this Order.

FOR THE NUCLEAR REGULATORY COMMISSION



Ben C. Rusche, Director
Office of Nuclear Reactor Regulation

Dated in Bethesda, Maryland
this 8th day of February 1977

APPENDIX A

REQUEST FOR INFORMATION

1. The licensee should correlate the effects of tube support plate expansion on the strain in the tubes in the "hard spot" regions, develop a plugging criteria, before and after blocking the flow slots, and provide the basis for the plugging criteria.
2. Provide an estimate of U-bend residual stresses for tubes in rows 2, 3 and 4.
3. Provide a summary of the Westinghouse experimental programs regarding denting, intergranular stress assisted corrosion, corrosion rate, the results to date, and the schedules and milestones for future work or implementation of any further plugging.
4. Provide material and processing specifications as requested in Question 23 of January 21, 1977, letter R. W. Reid to W. L. Proffitt.
5. Provide main steam line break and loss of coolant accident consequence analysis and the justification for an assumed number of tube failures concurrent with the event and resultant leakage.