

October 17, 1977

Dockets Nos.: 50-280 ✓  
and 50-281

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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 October 17, 1977, issued by the Commission for the Surry Power Station Units Nos. 1 and 2. This Order supplements our Orders issued August 24, 1977 and amends Facility Operating Licenses DPR-32 and DPR-37. This Order revises the limits on the minimum service water temperature from 55°F to 35°F.

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

Sincerely,

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

Enclosure:  
Order for Modification  
of License

cc w/enclosure: See next page

*Handwritten notes:*  
→ Based on study of NAR 2 & similitude of Surry  
Pg 17 Oct 77  
R. Baer A&B  
10/14/77  
MBF  
10/17/77

OFFICE →	ORB#4: DOR	C-ORB#4: DOR	OELD	AD-OR: DOR	D: DOR
SURNAME →	MFairtile:rm	RR Reid		KRGoller	VStemo
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SURNAME >	MFairtile:rn	RReid		KRGoller	VStello	
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Virginia Electric & Power Company

cc w/enclosure(s):

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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

Mr. James C. Dunstan  
State Corporation Commission  
Commonwealth of Virginia  
Blandon Building  
Richmond, Virginia 23209

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

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
VIRGINIA ELECTRIC AND POWER COMPANY	)	Dockets Nos. 50-280
Surry Power Station, Units Nos. 1 and 2	)	and 50-281

ORDER FOR MODIFICATION OF LICENSE

I.

Virginia Electric and Power Company (the Licensee), is the holder of Facility Operating Licenses Nos. DPR-32 and DPR-37 which authorizes the operation of two nuclear power reactors known as Surry Power Station, Units Nos. 1 and 2 (the facility) at steady state reactor power levels not in excess of 2441 thermal megawatts (rated power). The reactors are pressurized water reactors (PWR) located at the Licensee's site in Surry County, Virginia.

II.

On August 24, 1977, the Commission authorized the installation of flow-limiting orifices in the discharge of the outside recirculation spray pumps for the facility and imposed limitations on certain operating parameters for the facility. These limitations were designed to assure adequate minimum flow of the containment recirculation spray pumps for design basis Loss of Coolant Accident (LOCA) conditions. One of these limitations was a minimum service water temperature of 55°F. The service water cools, through heat exchangers, the recirculating

containment spray water. Adequate service water cooling serves to limit the recirculating containment spray water temperature. The lower limit on temperature was intended to assure that containment depressurization rate did not result in an inadequate net positive suction head (NPSH).

By letter dated September 12, 1977, the licensee submitted the results of more complete analyses regarding the available net positive suction head for the low head safety injection pumps for interim operation of the plants. The methods used to calculate the containment pressure, containment sump temperature, and available NPSH have been reviewed for the North Anna plant and found to be acceptable. The same methods were used in the calculations for Surry. The licensee has shown acceptable NPSH to be available for the pumps, operating at a discharge flow rate of 3500 gpm, with a minimum service water temperature of 35°F. Based on our review of this information the staff concludes that there will be adequate NPSH available with a service water temperature of 35°F with the low head safety injection pumps limited to 3500 gpm discharge flow. The licensee's evaluation of long term operation is required to be submitted no later than November 22, 1977.

For the foregoing reason, it is concluded that a decrease in the minimum service water temperature from 55°F to 35°F will still provide adequate recirculation spray pump flow to assure that continued operation will not impose an undue threat to public health and safety.

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 Swen Library, College of William and Mary, Williamsburg, Virginia: (1) Letter from Licensee dated September 12, 1977, and (2) This Order for Modification of License, In the Matter of Virginia Electric and Power Company, Surry Power Station Units Nos. 1 and 2, Dockets Nos. 50-280 and 50-281.

### 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 Licenses Nos. DPR-32 and DPR-37 are hereby amended by supplementing our August 24, 1977 Order for Modification of License to include the following limits on operation, effective immediately:

Service Water Temperature	35°F to 85°F
Containment Temperature	100°F - 125°F
Containment Air Partial Maximum Pressure	9.3 PSIA at 85°F service water temperature and 45°F RWST temperature. This value will vary in a manner similar to existing Technical Specification 3.8.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Victor Stello, Director  
Division of Operating Reactors  
Office of Nuclear Reactor Regulation

Dated in Bethesda, Maryland  
this 17th day of October 1977.