

January 10, 1978

Dockets No.: 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 January 10, 1978, issued by the Commission for the Surry Power Station Units Nos. 1 and 2. This Order supplements our Orders issued August 24, 1977 and October 17, 1977, and amends Facility Operating Licenses DPR-32 and DPR-37. This Order removes the limits on the minimum service water temperature.

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

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Virginia Electric & Power Company

cc w/enclosure(s):

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Board of Supervisors of Surry County
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Williamsburg, Virginia 23185

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. On

October 17, 1977, we authorized lowering the minimum limit to 35°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.

By letter dated December 28, 1977, the licensee submitted the results of similar analyses regarding the lowering of the minimum service water temperature from 35°F to 25°F. Technical Specification 3.14, Circulating and Service Water Systems, provides a requirement for two operable service water flow paths to the recirculation spray system. The definition of "operable" includes a requirement that the service water is unfrozen and available for use. The Technical Specification

requires plant shutdown should the flow paths not be operable. The following discussion indicates that the recirculating spray system would perform its required safety functions even if the service water reached 25°F, a physically unattainable lower value, since the freezing point for the service water is approximately 29°F.

The analyses in the December 28th letter indicate the effects of 25°F service water temperature on minimum available net positive suction head (NPSH) on the containment recirculation spray (RS) pumps and the low head safety injection (LHSI) pumps. The most severe operating condition provides sufficient NPSH and is therefore acceptable.

The decrease in service water temperature below 35°F provides added assurance that the containment will depressurize within one hour in the unlikely event of a loss of coolant accident.

For the foregoing reason, it is concluded that deleting the minimum service water temperature limit will still provide adequate recirculation spray pump flow to assure that continued operation will not impose an undue threat to public health and safety.

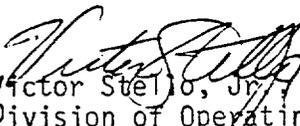
Copies of the following documents are available for public inspection in the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C. 20555, and at the Swem Library, College of William and Mary, Williamsburg, Virginia: (1) letters from Licensee dated September 12, and December 28, 1977, 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:

Maximum Service Water Temperature	85°F
Containment Temperature	100°F - 125°F
Containment Air Partial Maximum Pressure	9.3 PSIA at 85°F service water temper- ature 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 Stelio, Jr., Director
Division of Operating Reactors
Office of Nuclear Reactor Regulation

Dated in Bethesda, Maryland
this 10th day of January 1978.