

SOUTH CAROLINA ELECTRIC & GAS COMPANY

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T. C. NICHOLS, JR.
VICE PRESIDENT AND GROUP EXECUTIVE
NUCLEAR OPERATIONS

December 23, 1980

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REGISTRATION
MAIL SERVICES

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

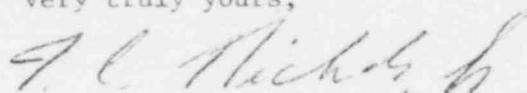
Subject: Virgil C. Summer Nuclear Station
Docket No. 50/395
Operation of Condensate Polishers

Dear Mr. Denton:

As requested by the Effluent Treatment Systems Branch, South Carolina Electric and Gas Company, acting for itself and agent for South Carolina Public Service Authority, provides forty-five (45) copies of a revised response regarding the operation of the condensate polishers for the Virgil C. Summer Nuclear Station. This response was previously transmitted in a December 15, 1980 letter to you. The FSAR will be updated to include all information given in the attachment to this letter.

If you have any questions, please let us know.

Very truly yours,



T. C. Nichols, Jr.

RBC:TCN:rh
Enclosures

cc: V. C. Summer w/o enclosures
G. H. Fischer w/o enclosures
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The purpose of the Condensate Polishing System (CPS) is to minimize the time for plant startup. During plant operation, the Steam Generator Blowdown System is in service for system cleanup and, therefore, the CPS is not required. However, the CPS will be used (assuming no SG leaks) for power operation up to 50% to better maintain prescribed chemistry parameters in the condensate and feedwater cycle.

The CPS consists of three vessels in the condensate cycle. Two vessels will be in service at a time with the third as a spare. The total flow through them will be a maximum of 8822 gpm (4411 each vessel). This is approximately one-half of the total condensate flow needed for full load capability of the V. C. Summer Nuclear Station, Unit 1.

The condensate polishers will be placed in service during plant startup for chemical cleaning of the condensate and feedwater cycles. There is a recirculation mode that will be used as a prestart cleanup of a major portion of the condensate and feedwater systems. This prestart cleanup will recirculate water using the condensate and feedwater booster pumps to the closed FW to steam generator isolation valves and back to the hotwell.

On unit startup, the polishers will be on line until the plant attains approximately 50% full load capacity. Then, due to condensate pump characteristics and system pressure drop, the CPS will be bypassed.

During shutdown of the unit, the CPS could be placed in service when the plant load is approximately 50% if system chemistry indicates a need for cleanup.

If the condenser develops a leak, which will be detected by the condenser leak detection system, the leak location will be determined and that half of the condenser will be taken out of service for repairs. At this time, the unit will be at a load of about 50% and the condensate polishers can be placed in service to assist in removing chemical impurities introduced by the detected leak.

If a primary to secondary leak occurs, it will be detected by the steam generator leak detection system and the CPS will be isolated. It is not intended to operate the CPS if a SG leak occurs.

Depleted resins are backflushed to a Backwash Receiving Tank from which samples will be taken and analyzed prior to release. The results of gamma isotopic analyses are then utilized via established station procedures and administrative controls to determine if a release is possible. If a release is acceptable, the depleted resins are discharged to the settling pond. This is accomplished using appropriate administrative procedures which includes the installation of a normally disconnected spool piece to the pond discharge line. If a release is not acceptable, all depleted resins will be solidified and disposed of at an authorized burial facility.

The anticipated operational information is as follows:

1. Flow rate each vessel: condensate flow rate = 4411 gpm
backwash flow rate = 200 gpm
2. Backwash frequency: 3 backwashes per 24 hr startup
3. Backwash holdup tank: 12,000 gallon capacity
4. Average backwash rate: 18 backwashes per year
5. Provisions exist for sampling condensate and resin backwash