



South Carolina Electric & Gas Company
P.O. Box 88
Jenkinsville, SC 29065
(803) 345-4344

Gary J. Taylor
Vice President
Nuclear Operations

March 14, 1996
RC-96-0069

Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Attention: Mr. Stephen Dembek

Gentlemen:

Subject: VIRGIL C. SUMMER NUCLEAR STATION (VCSNS)
DOCKET NO. 50/395
OPERATING LICENSE NO. NPF-12
ENVIRONMENTAL INFORMATION FOR PLANT UPRATE
(TSP 950001)

South Carolina Electric & Gas Company (SCE&G), acting for itself and as agent for South Carolina Public Service Authority, hereby submits additional information to support our contention that the environmental effects of uprate are inconsequential. Uprate will increase the thermal output of the Virgil C. Nuclear Station by approximately 4.6 percent, but should not provide any adverse impact to the surrounding environment.

Plant Uprate

The changes planned for uprate include removing a portion of the Circulating Water System (CW) heat load and rejecting it through a new cooling tower located on-site. This will permit the station to operate at uprate power without exceeding the CW discharge water temperature limits specified in our National Pollutant Discharge Elimination System (NPDES) permit. SCE&G is prepared to decrease power to prevent exceeding the 113°F discharge limit at peak summer temperatures.

The source of cooling water (i.e. Monticello reservoir), is largely unaffected by plant uprate. Total CW flow in gpm is predicted to decrease slightly (from $\approx 538,000$ gpm to $\approx 530,000$ gpm) due to the relocation of some of the heat loads to the cooling tower. The CW flow rate through the condenser and auxiliary condenser should increase slightly, but will remain within the design limits of these components. The water velocity at the intake structure will continue to remain below the velocity of 0.5 feet per second; therefore plant operation will continue to be bounded by assumptions contained in the Federal Water Pollution Control Act, section 316(b) - entrainment and impingement study performed for initial plant licensing.

SCE&G has performed extensive studies on the thermal flow and biological profiles of the intake and discharge areas of the plant since initial startup in 1982. These studies indicate that a small increase in heat loading to a lake of this magnitude (6700 acres) would not have any significant adverse biological effects. The increase in heat rejected to the reservoir (≈ 183 MBTU/HR) is estimated to provide a negligible contribution to the evaporative rate calculated for the Final Environmental Statement (FES) (NUREG 0719) for VCSNS.

Cool
1/0

The increased heat load rejected to Monticello Reservoir will not cause the thermal component of the effluent to exceed the NPDES condition for excess temperature at the intake to the Fairfield Pumped Storage Facility, Monticello Reservoir side: maximum monthly surface temperature average of 90°F, or the maximum monthly plume temperature rise of 3°F. These temperatures are regulated by the South Carolina Department of Health and Environmental Control (SCDHEC) and past plant performance has not been a significant factor or caused a violation of these NPDES limits.

Closed Cycle Cooling

The heat load rejected by the mechanical draft cooling tower has been conservatively calculated to be 60.66 MBTU/HR at 100% capacity. The cooling tower effluents, warm moisture laden air and treated raw water, are discharged to the atmosphere and to the CW discharge canal. A maximum of 150 gpm of raw water is supplied to the cooling tower for spray. The water in this system does not contain any radioactive material under normal or accident conditions. The effluents rejected to the atmosphere have been determined to have negligible effect on all structures and systems within range.

The blowdown from the towers (≈ 13 gpm), will be discharged via the CW system by way of existing connections located inside the Turbine Building. The cooling tower water will be treated with Powerline SCG-17 (a dispersant); Slimicide C-77P (to control fouling); and Clam-Trol CT-2 (to control fouling caused by mollusc - primarily the Asiatic Clam). The low concentrations being used and the very large dilution factors involved provide assurance that no significant biological hazard will be introduced. The discharge of these chemicals will be evaluated and approved by SCDHEC prior to use to insure that they will not impact the environment and are included in the NPDES regulated discharge for VCSNS.

Conclusion

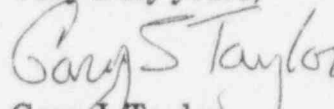
The South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the proposed uprate design and considers the change in facility operation to be acceptable and non-impacting to the environment as long as releases of effluents, as authorized under the current NPDES permit, are adhered to. SCE&G is currently authorized to discharge up to 113°F water to Lake Monticello. To insure that this temperature limit is not exceeded, the plant has administrative procedures in place which will reduce power as necessary.

The heat dissipation system for VCSNS and its expected environmental impact was evaluated in the Final Environmental Statement (FES) during initial plant licensing. The increase in heat load due to uprate will not cause significant effects; it is not considered a significant increase from an environmental standpoint. Therefore this change does not constitute an Unreviewed Environmental Question as described in Appendix B to the VCSNS Operating License.

These statements and matters set forth herein are true and correct to the best of my knowledge, information, and belief.

Should you have questions, please call Mr. Philip Rose at (803) 345-4052.

Very truly yours,


Gary J. Taylor

PAR/GJT/dr

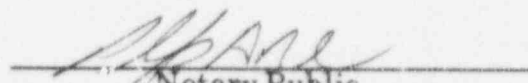
c: J. L. Skolds
W. F. Conway
R. R. Mahan
R. J. White
S. D. Ebnetter
NRC Resident Inspector

J. B. Knotts Jr.
M. K. Batavia
K. R. Jackson
DMS (RC-96-0069)
RTS (TSP 950001)
File (813.20)

STATE OF SOUTH CAROLINA :
: TO WIT :
COUNTY OF FAIRFIELD :

I hereby certify that on the 14th day of MARCH 1996, before me, the subscriber, a Notary Public of the State of South Carolina, personally appeared Gary J. Taylor, being duly sworn, and states that he is Vice President, Nuclear Operations of the South Carolina Electric & Gas Company, a corporation of the State of South Carolina, that he provides the foregoing response for the purposes therein set forth, that the statements made are true and correct to the best of his knowledge, information, and belief, and that he was authorized to provide the response on behalf of said Corporation.

WITNESS my Hand and Notarial Seal


Notary Public

My Commission Expires

July 13, 2005
Date