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SCE&G®
A SCANA COMPANY

July 25, 2002
RC-02-0132

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

Attention: Ms. K. R. Cotton

Ladies and Gentlemen:

Subject: VIRGIL C. SUMMER NUCLEAR STATION
DOCKET NO. 50/395
OPERATING LICENSE NO. NPF-12
TECHNICAL SPECIFICATION AMENDMENT REQUEST - TSP 99-0090
SPENT FUEL POOL STORAGE EXPANSION - RESPONSE TO RAI DATED JUNE 20 2002 AND QUESTION DATED JULY 9, 2002

References:
1. S. A. Byrne Letter to Document Control Desk, RC-01-0135, Dated July 24, 2001
2. S. A. Byrne Letter to Document Control Desk, RC-02-0116, Dated July 2, 2002

South Carolina Electric & Gas Company (SCE&G), acting for itself and as agent for South Carolina Public Service Authority, hereby submits a response to your verbal questions, dated July 9, 2002, requesting information concerning the above referenced license amendment request (LAR) (Reference 1). This request for additional information requested a response to specific questions related to control of heavy loads above the Spent Fuel Pool. The questions and responses are provided in Attachment I. This letter supplements the response submitted in Reference 2.

I certify under penalty of perjury that the foregoing is true and correct.

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

Very truly yours,

Stephen A. Byrne

PAR/SAB/dr
Attachments

A001

c: N. O. Lorick
N. S. Carns
T. G. Eppink (without attachments)
R. J. White
L. A. Reyes
NRC Resident Inspector
Paulett Ledbetter
K. M. Sutton
T. P. O'Kelley
W. R. Higgins
RTS (0-L-99-0090)
File (813.20)
DMS (RC-02-0132)

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

I hereby certify that on the 25TH day of July 2002, before me, the subscriber, a Notary Public of the State of South Carolina personally appeared Stephen A. Byrne, being duly sworn, and states that he is Senior 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

James W. Turkett, Jr
Notary Public

My Commission Expires

October 2, 2010
Date

Attachment I
Responses to Request for Additional Information

On July 9, 2002 discussions were held with the NRC reviewer on our response to the June 20, 2002 request for additional information. There were four specific areas that were discussed, all pertaining to the use of a temporary gantry crane during the removal and installation of the storage racks. These areas were: seismic design of the crane, quality aspects of the crane fabrication, avoidance of load hang-ups, and onsite testing of the crane prior to use over the Spent Fuel Pool. The following is a clarification of the previous submittals.

Seismic design:

The V. C. Summer temporary crane has been designed and analyzed for four loading conditions. These loading conditions are; normal operation, test load, operating basis earthquake (OBE), and design basis earthquake (DBE). The first two loading conditions, normal operation and test load conform to Crane Manufacturers Association of America (CMAA) Specification 70, Specifications for Top Running Bridge & Gantry Type Multiple Girder Electric Overhead Traveling Cranes. Section 3.3.2, Loadings, of this specification specifically states that seismic forces are not considered. Therefore to qualify the temporary crane for OBE and DBE seismic events, ASME Section III, Subsection NF, Supports is used as acceptance criteria. The acceptance criteria for OBE is level B for off-normal conditions. The acceptance criteria for DBE is level D for accident conditions. The methodology used to perform the seismic analyses is the response spectrum method. The modes and the directional components of the spectrum were summed using the square root of the sum of the squares (SRSS). Appropriate hold down devices will be incorporated into the truck design to resist upward lifting forces from seismic events.

Quality aspects of crane fabrication:

The temporary crane is being fabricated to the same requirements as applied to fabrication of a safety related component under the Holtec QA Program. Therefore, 10CFR50 Appendix B requirements are applied for the fabrication process. The crane

is being manufactured by UST&D, the same vendor that is fabricating the spent fuel racks for VC Summer. All welding procedures, material processes, and controls as required for a safety related item shall be implemented for the fabrication process. QC oversight by UST&D inspectors as well as oversight from the Holtec resident inspector will be ongoing during the fabrication and testing process.

Upon completion of the fabrication and inspection, load testing the crane structure will be done via an approved procedure. The temporary crane will be load tested to 125% of its rated capacity.

Avoidance of load hang-ups:

Hang-ups of lifted loads is an unlikely event when using the crane due to the multitude of precautions being taken in support of the use of the temporary crane. First, it should be noted that the racks that are being removed and those that are being installed are free standing racks. For rack removal, initial lifts of the racks will be minimal in nature to ensure that the rack is lifted freely from the pool floor. This activity is monitored by an underwater camera system.

Once the rack is lifted approximately 1" above the floor, the load will be suspended for 10 minutes prior to any additional movements to ensure safe conditions. Upon completing the ten minute hold, the rack is then lifted to about 6" above the floor to ensure adequate clearance beneath the rack as the rack is traveled along the pool floor via pre-determined safe load paths at this approximate 6" height above the floor. When the rack has reached a pre-established mark, the rack will commence its lift to the surface. The underwater camera will monitor all movements of the rack.

Additionally, any potential hang-up hazards are clearly noted in the governing field procedures and any special rack movements to avoid contact with any hang-up hazards are delineated. Also, it should be noted that fuel is to be shuffled into configurations that will maximize the distance between stored fuel and the location of where the rack will be raised to the surface of the spent fuel pool.

Finally, it should be noted that the crane end truck assemblies have a wheel-to-wheel spacing of 118", thus providing for a stable base.

Onsite testing of the crane:

Upon completion of the crane fabrication, the temporary crane will be erected and load tested to 125% of its rated capacity at the shop. Upon successful testing, the temporary crane will be disassembled, packaged, and shipped to site. The crane will then be erected in the Fuel Handling Building on the spent fuel bridge crane rails over the Decontamination Pit area away from the Spent Fuel Storage Pool. Upon completion of the erection process on site, the temporary crane will be load tested to 100% of its rated load. Additionally, the temporary crane hoist will trolley the load to the extent possible along the length of the beam that supports the trolley. Also, the bridge will travel with the load along the fuel bridge rails. However, the movement of the temporary crane along the rails with the suspended test load will be limited to the distance available within the erection area. Thus, at no time in the load testing, will the temporary crane or the suspended load travel over the spent fuel pool. Load testing of the temporary crane will follow the criteria detailed in ASME B30.2 - 2001 to the extent possible and applicable for this operation. Upon successful load testing of the temporary crane, several functional checks will be completed as directed by an applicable specific procedure.