UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 20, 1987

50-219

Mr. David M. Scott
Bureau Chief
Bureau of Nuclear Engineering
Department of Environmental Protection
CN 411
Trenton, New Jersey 08625

Dear Mr. Scott:

SUBJECT: OYSTER CREEK TECHNICAL SPECIFICATION CHANGE REQUEST NO. 147 (TAC 64152)

Re: Oyster Creek Nuclear Generating Station.

This is in response to your letter of December 5, 1986, to the Director of Boiling Water Reactor (BWR) Project Directorate #1, Division of BWR Licensing, NRR, NRC. I have discussed the contents of this letter with Ms. R. Green of your staff in February 1987 but I have been delayed because of the reorganization of NRC in getting this letter to you.

In your letter dated December 5, 1986, you provided the staff with your review of Oyster Creek Technical Specification Change Request (TSCR) No. 147. GPU Nuclear (the licensee) proposed in this TSCR to (a) increase the high drywell pressure setpoint limit, (b) add a bypass to the high flow trip of the "B" Isolation Condenser when initiating the alternate shutdown in response to a fire causing the evacuation of the control room and (c) revise the appropriate Bases of the Technical Specifications (TS). The staff approved these proposed changes in Amendment 112 issued on October 31, 1986.

You stated in your letter that you do not agree with the staff's approval of the bypass on the high flow trip. Because the staff's approval was based on avoiding a spurious signal from cable during a fire, you stated that given Oyster Creek's unique design the staff should require the licensee to protect the cables from the fire instead of approving the bypass. This was based on your concern that the "B" Isolation Condenser is outside containment and provides a potential release pathway of radiation exposure to the public during the fire. Because the isolation condenser lines have had cracks due to Intergranular Stress Corrosion Cracking (IGSCC) you stated it may not be improbable that a break causing a high flow may occur. Further, you explained that you do not consider dilution through the Oyster Creek stack to reduce doses is an acceptable alternative to controlling releases to as low as is reasonably achievable with existing technology. It is your position that every effort should be made to minimize the amount of radiation released from the plant. In conclusion, you requested that NRC consider making a site specific exception to Appendix R for Oyster Creek for having modifications done to avoid the need for the bypass approved in Amendment 112.

The staff has reviewed your letter and considered your request. Although Oyster Creek may be considered a unique design because there are not many nuclear power plant designs with isolation condensers instead of high pressure coolant injection; however, this was taken into account in reviewing the plant's compliance with Appendix R and the review was made against the same criteria in Appendix R as applied to all the nuclear power plants. The high flow bypass for the "B" Isolation Condenser meets the requirements in Appendix R and was accepted by the staff in its Safety Evaluation dated March 24, 1986 and was discussed in Section 3.2 of Amendment 112. As you stated in your letter, Appendix R does not require the licensee to postulate a fire and a design basis accident together and does not require the licensee to protect both trains of redundant system to achieve safe plant shutdown for the same fire.

Your concerns are that the isolation condenser piping, to and from the reactor vessel, is susceptible to IGSCC, has suffered cracking in the past and is partly located outside the drywell where leaks from these pipes, from small breaks which may not be noticed by the operators, could cause severe environmental consequences offsite. In addition, the isolation valves on the steam lines from the reactor vessel to the isolation condensers are both outside the drywell. You also expressed the concern that the staff was not being sufficiently conservative in accepting this bypass in the proposed TS change instead of having the licensee reroute or fix the cable to prevent the chance of a spurious signal in a fire.

The high flow trip function at Oyster Creek is provided to isolate the isolation condenser system in the event of a line break. The occurrence of a major fire requiring the evacuation of the control room to the alternate shutdown panel and a line break accident is not required by the staff's implementation of Appendix R and is not considered sufficiently credible to be designed for.

The isolation condenser system was inspected for IGSCC indications by the licensee in the current Cycle 11R outage and the results were submitted to the staff in the licensee's letter dated October 3, 1986. The licensee concluded, on the 18 structural weld overlays on the isolation condenser system, that there were no IGSCC indications and the overlays are acceptable for continued operation. The staff's evaluation issued on November 14, 1986, concluded that the weld repairs were acceptable and the plant was safe for continued operation.

The concern that both containment isolation valves on the steam lines to the isolation condensers are on the outside of the drywell is Topic III-5.B, Pipe Break Outside Containment, of the staff's Systematic Evaluation Program (SEP). This is also a separate review by the staff for which the licensee has provided fracture mechanics analyses that the licensee has stated demonstrates that through-wall cracks in the isolation condenser steam pipe would open up, yet remain stable, under severe pipe pressure loading and rotation stresses. The analysis concludes that no instantaneous pipe break would occur and the estimated pipe leakage for these cracks would be less than 1 gpm. These lines are in the licensee's inservice inspection program and the inspections are in accordance with Section XI of the ASME Code. The lines are considered adequately sound for continued plant operation until the SEP Topic is resolved.

These isolation valves and the IGSCC issue are part of the licensee's program on containment piping penetrations in the staff's evaluation dated December 24, 1986. The intent is to resolve this issue and IGSCC by the end of the Oyster Creek Cycle 12 Refueling outage.

Appendix R only requires the evaluation of a loss of offsite power concurrent with the fire and does not require that other unlikely events such as pipe breaks be considered. Therefore, the staff did not require the licensee to reroute or replace the applicable cable to prevent the spurious signal.

The pathway for radioactivity for Oyster Creek from the isolation condensers to the environment is through the stack for the Reactor Building. The radiation monitors in the stack will isolate the Reactor Building on high radiation and start up the Standby Gas Treatment System to filter the release. In the unusual event of failure of the isolation condenser the release should be kept within the limits of 10 CFR Part 20 and well within the limits of 10 CFR Part 100.

I hope this letter answers your concerns with TSCR No. 147 and explains the basis for the staff's decision. If you want to have further discussions on this issue. I suggest a meeting be arranged by myself with the appropriate staff individuals to discuss this further. You can contact me at (301) 492-9421.

Sincerely,

Jack N. Donohew, Jr., Project Manager
BWR Project Directorate #1
Division of BWR Licensing

Copy to: Mr. P. B. Fiedler
Vice President & Direcotr
Oyster Creek Nuclear
Generating Station
P. O. Box 388
Forked River, NJ 08731

DISTRIBUTION
~~Docket File~~
NRC PDR
Local PDR
BWD1 Reading
RBernero
EJordan
BGrimes
GLainas
OC File
JDonohew
CJamerson
ACRS (10)
OGC-BETH
JPartlow
JZwolinski
GKerr
OC Service List

*SEE PREVIOUS PAGE FOR CONCURRENCE

DBL:BWD#1*	DBL:BWD#1*	DBL:BWD#1
CJamerson	JDonohew	
03/02/87	03/02/87	/20/87
	3/20/87	

These isolation valves and the IGSCC issue are part of the licensee's program on containment piping penetrations in the staff's evaluation dated December 24, 1986. The intent is to resolve this issue and IGSCC by the end of the Oyster Creek Cycle 12 Refueling outage.

Appendix R only requires the evaluation of a loss of offsite power concurrent with the fire and does not require that other unlikely events such as pipe breaks be considered. Therefore, the staff did not require the licensee to reroute or replace the applicable cable to prevent the spurious signal.

The pathway for radioactivity for Oyster Creek from the isolation condensers to the environment is through the stack for the Reactor Building. The radiation monitors in the stack will isolate the Reactor Building on high radiation and start up the Standby Gas Treatment System to filter the release. The release will be kept within acceptable limits but the limits are not the ALARA guidelines of Appendix I to 10 CFR Part 50. The applicable limits for releases from accidents are 10 CFR Part 20 and 10 CFR Part 100. In the staff's calculations of exposure to the public from normal, abnormal and accident releases from the plant it is acceptable for credit to be given for the dilution of releases due to an elevated release from a stack.

I hope this letter answers your concerns with TSCR No. 147 and explains the basis for the staff's decision not to treat Oyster Creek differently from the other nuclear power plants in how Appendix R is applied to the plant. If you want to have further discussions on this issue. I suggest a meeting be arranged by myself with the appropriate staff individuals to discuss this further. You can contact me at (301) 492-9421.

Sincerely,

Jack N. Donohew, Jr., Project Manager
BWR Project Directorate #1
Division of BWR Licensing

Copy to: Mr. P. B. Fiedler
Vice President & Direcotr
Oyster Creek Nuclear
Generating Station
P. O. Box 388
Forked River, NJ 08731

DISTRIBUTION
Docket File
NRC PDR
Local PDR
BWD1 Reading
RBernero
FJordan
BGrimes
GLainas
OC File
JDonohew
CJamerson
ACRS (10)
OGC-BETH
JPartlow
JZwolinski
GKerr
OC Service List

DBL:BWD#1	DBL:BWD#1	DBL:BWD#1	OGC-BETH
CJamerson	JDonohew		
3/2/87	3/2/87	/ /87	3/ /87

3/9/87

Oyster Creek Nuclear Generating Station

cc:

Mr. Ernest L. Blake, Jr.
Shaw, Pittman, Potts and Trowbridge
2300 N Street, NW
Washington, D.C. 20037

J.B. Liberman, Esquire
Bishop, Liberman, Cook, et al.
1155 Avenue of the Americas
New York, New York 10036

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

BWR Licensing Manager
GPU Nuclear Corporation
1 Upper Pond Road
Parsippany, New Jersey 07054

Deputy Attorney General
State of New Jersey
Department of Law and Public Safety
36 West State Street - CN 112
Trenton, New Jersey 08625

Mayor
Lacey Township
818 West Lacey Road
Forked River, New Jersey 08731

Licensing Manager
Oyster Creek Nuclear Generating Station
Mail Stop: Site Emergency Bldg.
P. O. Box 388
Forked River, New Jersey 08731

Resident Inspector
c/o U.S. NRC
Post Office Box 445
Forked River, New Jersey 08731

Commissioner
New Jersey Department of Energy
101 Commerce Street
Newark, New Jersey 07102

Mr. David M. Scott, Acting Chief
Bureau of Nuclear Engineering
Department of Environmental Protection
CN 411
Trenton, New Jersey 08625

Mr. P. B. Fiedler
Vice President & Director
Oyster Creek Nuclear
Generating Station
P. O. Box 388
Forked River, New Jersey 08731