

GPU Nuclear

GPU Nuclear Corporation
One Upper Pond Road
Parsippany, New Jersey 07054
201-316-7000
TELEX 136-482
Writer's Direct Dial Number:

May 13, 1988

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Mail Station P1-137
Washington, D.C. 20555

Gentlemen:

Subject: Oyster Creek Nuclear Generating Station
Docket No. 50-219
Technical Specification Change Request No. 169

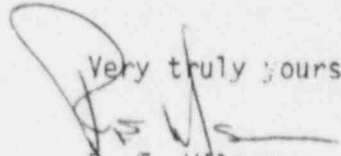
Pursuant to 10CFR50.90, GPU Nuclear Corporation, operator of the Oyster Creek Nuclear Generating Station (OCNGS), Provisional Operating License No. DPR-16, requests a change to Appendix A of that license.

The subject Technical Specification Change Request (TSCR) proposes to amend paragraph 2.C.(7) of Provisional Operating License No. DPR-16 for future (12R) core spray sparger inspections. Specifically, this amendment proposes to utilize a visual inspection technique; and to eliminate the requirement to docket inspection results and to obtain NRC restart authorization for each refueling outage.

This change request has been reviewed in accordance with Section 6.5 of the Oyster Creek Technical Specifications, and we have concluded that this proposed change does not constitute a significant hazard consideration.

Pursuant to 10CFR50.91(b)(1), a copy of this change request has been sent to the State of New Jersey Department of Environmental Protection. In addition, a check for \$150.00 pursuant to 10CFR170.12 is enclosed for the application fee.

Very truly yours,


R. F. Wilson
Vice President
Technical Functions

RFW/DJ/pa(6151f)
Attachment

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GPU Nuclear Corporation is a subsidiary of General Public Utilities Corporation

Handwritten notes:
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w/ check
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cc: Mr. William T. Russell, Administrator
Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA. 19406

Mr. John Stolz, Director
Project Directorate I-4
Division of Reactor Projects I/II
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

NRC Resident Inspector
Oyster Creek Nuclear Generating Station
Forked River, N.J. 08731

Mr. Alex Dromerick, Jr., Project Manager
Division of Reactor Projects I/II
Washington, D.C. 20555

GPU NUCLEAR CORPORATION
OYSTER CREEK NUCLEAR GENERATING STATION

Provisional Operating
License No. DPR-16

Technical Specification
Change Request No. 169
Docket No. 50-219

Applicant submits, by this Technical Specification Change Request No. 169 to the Oyster Creek Nuclear Generating Station Technical Specifications, a change to page 6-18, and paragraph 2.C.(7) of License No. DPR-16.

By *R. F. Wilson*
R. F. Wilson
Vice President
Technical Functions

Sworn and Subscribed to before me this 13th day of May, 1988.

Bettyann Earley
A Notary Public of NJ

BETTYANN EARLEY
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires Mar. 21, 1991

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the matter of)
GPU Nuclear Corporation)


Docket No. 50-219

CERTIFICATE OF SERVICE

This is to certify that a copy of Technical Specification Change Request No. 169 for Oyster Creek Nuclear Generating Station Technical Specifications, filed with the U.S. Nuclear Regulatory Commission on May 13, 1988, has this day of May 13, 1988, been served on the Mayor of Lacey Township, Ocean County, New Jersey by deposit in the United States mail, addressed as follows:

The Honorable Christopher Connors
Mayor of Lacey Township
818 West Lacey Road
Forked River, NJ 08731

By



R. F. Wilson
Vice President
Technical Functions



GPU Nuclear Corporation
One Upper Pond Road
Parsippany, New Jersey 07054
201-316-7000
TELEX 136-482
Writer's Direct Dial Number:

May 13, 1988

The Honorable Christopher Connors
Mayor of Lacey Township
818 West Lacey Road
Forked River, New Jersey 08731

Dear Mayor Connors:

Enclosed herewith is one copy of Technical Specification Change Request No. 169 for the Oyster Creek Nuclear Generating Station Operating License.

This document was filed with the United States Nuclear Regulatory Commission on May 13, 1988.

Very truly yours,

A handwritten signature in dark ink, appearing to read "R. F. Wilson", written over a horizontal line.

R. F. Wilson
Vice President
Technical Functions

RFW/DJ/pa(6151f)
Attachment

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GPU Nuclear Corporation
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Parsippany, New Jersey 07054
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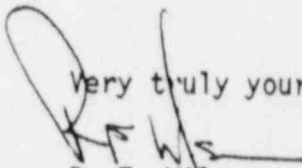
Mr. David Scott, Chief
Bureau of Nuclear Engineering
Department of Environmental Protection
CN411
Trenton, New Jersey 08625

Dear Mr. Scott:

Subject: Oyster Creek Nuclear Generating Station
Provisional Operating License No. DPR-16
Technical Specification Change Request No. 169

Pursuant to 10CFR50.91(b)(1), please find enclosed a copy of the subject document which was filed with the United States Nuclear Regulatory Commission on May 13, 1988

Very truly yours,


R. F. Wilson
Vice President
Technical Functions

RFW/DJ/pa(6151f)
Attachment

OYSTER CREEK NUCLEAR GENERATING STATION
PROVISIONAL OPERATING LICENSE NO. DPR-16
DOCKET NO. 50-219
TECHNICAL SPECIFICATION CHANGE REQUEST NO. 169

Applicant hereby requests the Commission to change paragraph 2.C.(7) and Appendix A to the above captioned license as below, and pursuant to 10CFR50.91, an analysis concerning the determination of no significant hazards consideration is also presented:

1. License and Appendix A Changes

- a. Paragraph 2.C.(7)
- b. Technical Specification 6.9.3

2. Extent of Change

- a. Amend paragraph 2.C.(7) of license DPR-16 to eliminate the requirement for the docketing of inspection results, and obtaining NRC restart authorization for each refueling outage.
- b. Eliminate the submittal of a special report presenting the results of the Inservice Inspection of the Core Spray Spargers during each refueling outage.
- c. Propose visual inspections of accessible surfaces in accordance with ASME B&PV Code, Section XI.

3. Changes Requested

- a. Amend Provisional Operating License No. DPR-16, Paragraph 2.C.(7) to read as follows:
 - (7) Inspections of all accessible surfaces and welds of both core spray spargers and repair assemblies at each refueling outage will be performed so that meaningful comparisons can be made. For new or progressing indications, an evaluation of the safety significance will be provided to the Commission's staff for review.
- b. The proposed change to Appendix A, Technical Specifications, is shown on attached page 6-18.

4. Discussion

a. Core Spray Sparger

The Oyster Creek reactor vessel contains two independent core spray sparger assemblies which are fed by two separate core spray systems. Each core spray sparger assembly consists of two 180° segments of formed 3-1/2 inch Schedule 40S stainless steel piping, each of which contains 56 spray nozzles (112 nozzles total per sparger ring assembly). Each 180° segment consists of two 90° arms which are connected to a 5 inch Schedule 40 inlet pipe. When the system is actuated, core spray water is directed through a reactor vessel nozzle and a penetration in the shroud to both segments of the core spray sparger assembly, thus supplying water to the reactor core from all directions. Each 180° segment of the spargers is supported at the location of the 5 inch inlet pipe connection which is welded to the shroud and by three, approximately equally spaced support brackets on either side of the central inlet pipe connection. The support brackets consist of 3/8" thick vertical gusset plates, with 1-1/2" wide bearing pads, which support the sparger arms in the radial and vertical directions. The sparger arms are free to slide in a circumferential direction (relative to their inlet connection to the shroud) as required to accommodate any differential thermal expansion between the shroud and the sparger during injection of cool core spray water.

b. Core Spray Sparger Inspections and Repairs

During the 1978 refueling outage at the OCNCS, a scheduled inservice inspection of the reactor internals identified and confirmed the existence of a crack at azimuth 208° in the upper sparger. The crack was determined to extend approximately halfway around the sparger circumference by examination. By supplying air to the sparger, gas bubbles were observed from the crack, and it was concluded that the crack was through-wall for about 135°. Even though structural and hydraulic analyses indicated that the cracked sparger was adequate for continued operation, an additional mechanical support was installed.

Examination of the upper spargers during the 1980 refueling outage confirmed that the repair clamp assembly remained as installed in 1978. Inspection of the balance of the spargers and annulus piping resulted in twenty-one visual indications and sixteen ultrasonic (UT) indications. The proposed repair was the addition of seven clamp assemblies to the upper sparger and two clamp assemblies to the lower sparger. These clamp assemblies were the same in concept, material and cross-section as the repair clamp which was installed in 1978.

In the Safety Evaluation (SE) by the office of Nuclear Reactor Regulation (NRR) supporting Amendment No. 47, dated May 15, 1980, the staff found the licensee's design and installation of the repair bracket assemblies were in accordance with currently accepted engineering practices. Further, the analyses of the structural loads imposed by static, seismic and thermal loadings demonstrated the bracket assembly's ability to limit the crack opening to within an acceptable range should an existing crack propagate around the pipe circumference. The staff concluded that high installation stresses, material sensitization, cold work, local heating, etc. were all probable causes for the initiation of stress corrosion cracking, and agreed that the crack opening could relieve stresses and reduce the susceptibility of stress corrosion cracking in other locations. However, the staff found insufficient bases to conclude that stress corrosion crack initiation and propagation were eliminated completely. Since the staff still had a concern of additional cracking over the long term, the staff stated that the spargers should be replaced during the 1981 refueling outage. Operation with a cracked sparger for an interim fuel cycle was permitted based on repairs to the sparger using repair bracket assemblies.

An enhanced video reassessment performed in 1982 of the sparger indications observed in 1980 concluded three indications as cracks and two indications as possible cracks. The examination was performed using procedures and equipment that had been demonstrated to resolve a wire 0.001 inch in diameter.

A 1983 reinspection of the spargers and annulus piping by visual means utilizing an enhanced video technique and UT inspections of accessible areas disclosed no indications except the through-wall crack at 208° which was identified and clamped in 1978. The visual and UT indications from the 1980 inspection were considered suspect, even though 2 visual and 11 UT indications were clamped and could not be reinspected in 1983.

In the SE by NRR supporting Amendment No. 70, dated January 26, 1984, the staff attributed the lack of inspection reliability to the metal surface reflectivity, and the inability to focus on an in situ artificial flaw, such as a vibrotooled (or engraved) component, etc. However, the staff stated that the minor cracking that may escape detection is insignificant in terms of both structural integrity or flow distribution, and the visual inspection as supplemented by the enhanced video assessment technique was adequate to conclude that a significant progression had not occurred. The staff required that future inspections by a method acceptable to them of all accessible surfaces and welds of both core spray spargers and repair assemblies be performed at each refueling outage, so meaningful comparisons with previous inspections could be made. The replacement of the sparger was deferred pending evidence of significant degradation.

In the SE by NRR supporting the 11R Inspection, dated, October 31, 1986, the staff concurred with the inspection results of no indications, found the inspections were performed in accordance with IE Bulletin 80-13, and met the requirements of License Condition 2.C.(7).

c. Effect of Proposed Amendment on the Safety Function

By amending license condition 2.C.(7) such that the core spray sparger and annulus piping are now part of the scheduled in-service inspection of reactor internals, this activity would eliminate the administrative process associated with obtaining separate NRC approvals for inspection methods, for reviewing inspection results, and for obtaining restart authorization at the end of each refueling outage. Initial NRC concern about the propagation of existing cracks, and the initiation of new cracks has been alleviated by the installation of repair brackets, and the positive results (no indications) from the 1983 and 1986 refueling outage inspections. Further, visual inspections will continue as part of the inservice inspection program for reactor internals, and will include all accessible areas of the Core Spray Sparger assemblies, and inlet piping between the shroud and the vessel wall. The visual inspections for the remainder of this 120-month inservice inspection interval (expires 12/7/89) will be done in accordance with paragraphs IWA 2211 (Spargers), and IWA 2213 (Piping) of the ASME B&PV Code, Section XI, 1977 Edition with Addendas up to and including Summer, 1978. The visual inspections with the use of the video enhancement technique for any new indications will provide a level of assurance on the structural integrity of the core spray sparger and annulus piping for subsequent operating cycles.

5. Determination

Based upon the hereinbefore discussion, we have evaluated that this change request involves no significant hazards consideration. In summary, we have determined that the proposed amendment would not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated;

The present license condition 2.C.(7) was written to provide a meaningful comparison of inspection results, and to provide a mechanism for replacement of the sparger if further degradation was observed. By the 1983 and 1986 inspections, no degradation was observed of the sparger and the repair brackets remained intact. Since the sparger has not changed condition from 1978, the amending of this license condition will not increase the probability of occurrence or the consequences of an accident.

2. Create the probability of a new or different kind of accident from any accident previously evaluated;

Previous inspections (1983, 1986) conducted under the present license condition have observed no indications for the core spray spargers. Amending the license condition to eliminate the docketing of the inspections results would not create a possibility for an accident or malfunction of a different type than any previously identified in the FDSAR.

3. Involve a significant reduction in a margin of safety;

This activity proposes an amendment to license condition 2.C.(7) such that the core spray sparger inspection can be conducted as part of the inspection of the reactor vessel internals. The license condition was established in response to an initial concern to the extent of future cracking in the sparger. This concern has been mitigated by the positive results from subsequent inspections (1983 & 1986), and the installation of 10 repair brackets in the 1978 and 1980 refueling outages.