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

Gentlemen:

Subject: Oyster Creek Nuclear Generating Station (OCNGS)
Docket No. 50-219
Facility Operating License No. DPR-16
Core Shroud Enhancement - Inservice Inspection and XM-19
Material Testing Programs

References: NRC Letter dated November 25, 1994, "Safety Evaluation
Regarding the Oyster Creek Core Shroud Repair,"
TAC No. M90104.

The referenced NRC Safety Evaluation requested GPU Nuclear to submit, within 6 months after plant start up from the 15R outage, an inservice inspection program for the core shroud repair/tie rod assemblies and a material testing program for hot rolled XM-19 in a simulated BWR environment. Attachment 1 provides the requested augmented inservice inspection program and Attachment 2 provides the proposed hot rolled XM-19 material test program. GPU Nuclear plans to initiate the XM-19 material testing immediately upon receipt of NRC acceptance of the proposed testing program.

If you have any questions or comments on this submittal, please contact Mr. Michael Laggart, Manager, Corporate Nuclear Licensing at (201) 316-7968.

Sincerely,

R. W. Keaten
Vice President and Director
Technical Functions

Attachments
RTZ/plp

c: Administrator, Region
Senior Resident Inspector
Oyster Creek NRC Project Manager

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ATTACHMENT 1

OYSTER CREEK NUCLEAR GENERATING STATION
AUGMENTED INSERVICE INSPECTION (ISI)
CORE SHROUD & TIE ROD ASSEMBLIES

Purpose

By letter dated November 25, 1994, the NRC requested GPU Nuclear to submit an inspection program for the ten core shroud tie rod assemblies placed in service during the 15R outage. These tie rod assemblies stabilize and reinforce the core shroud should cracking of weld(s) occur and exceed acceptable limits. The proposed augmented ISI program for the Oyster Creek shroud enhancement follows.

Tie-Rods

Perform a VT-3 examination of two (2) tie-rod assemblies each refueling outage with the initial inspection taking place during the 16R outage scheduled for the fall of 1996. The specific tie rod assemblies selected will vary each refueling outage. The two (2) selected tie rod assemblies should be approximately 180° apart. The examination results shall be compared to the preservice base line inspection. The examination to include all accessible areas with emphasis on the following:

- Hook positioning.
- Lateral supports (bumpers) orientation and gaps (vessel side and shroud side), including keeper plate gap.
- Top bracket attachment to rod and spacer ring mating with top flange of shroud.
- Crimp on top bracket nut.

Bracket Attachment to Conical Support (Clevis Assembly)

Perform a VT-1 examination of the accessible attachment welds (cone to bracket and bracket to shroud) and adjoining clevis assemblies on each side of the two (2) selected tie rods (see above) each scheduled refueling outage with the initial inspection taking place during the 16R outage scheduled for the fall of 1996.

Conical Support to Vessel Weld (H9)

Perform a VT-1 examination of the areas inspected during the 15R outage (4 segments approximately 56" long each) each scheduled refueling outage with the initial inspection taking place during the 16R outage scheduled for the fall of 1996.

Shroud Vertical Welds

Perform a VT-1 examination of one (1) vertical weld (shroud O.D. only) each scheduled refueling outage with the initial inspection taking place during the 16R outage scheduled for the fall of 1996. The weld selected will vary each refueling outage.

Top Guide Ring Segment Radial Welds

Verify the integrity of both radial top guide ring segment welds by direct or indirect method(s) each scheduled refueling outage with the initial inspection taking place during the 16R outage scheduled for the fall of 1996.

ATTACHMENT 2OYSTER CREEK NUCLEAR GENERATING STATION (OCNGS)
HOT ROLLED XM-19 MATERIAL TEST PROGRAMPurpose

By letter dated November 25, 1994, the NRC requested GPU Nuclear to submit a material testing program for hot rolled XM-19 used in the core shroud enhancement placed in service during the 15R outage. The purpose of this test program is to demonstrate the resistance to intergranular stress corrosion cracking (IGSCC) of hot rolled XM-19 materials in a simulated BWR environment under a creviced condition such as in a threaded configuration. The proposed material testing program for the Oyster Creek shroud enhancement follows.

Test Program

Testing will be accomplished utilizing cylindrical CERT type specimens containing a threaded section cut to the same geometry as that utilized in the core shroud tie rods. A crevice geometry will be established around the threaded section to simulate the condition existing at the tie rod ends. Materials will be archive specimens from the same heats of material utilized in the core shroud tie rods installed at Oyster Creek (GPUN) and Fitzpatrick (NYPA) Nuclear Power Plants.

The test medium will be simulated BWR reactor coolant at 550°F with a minimum 8 ppm oxygen. Contaminant levels will be controlled to maintain conductivity of 0.3 to 0.5 microsiemens/cm.

Test acceleration will be accomplished by subjecting the specimens to slow strain rate testing at a low rate (approximately $5 \times 10^{-7} \text{ sec}^{-1}$) until failure. Prior to straining, specimens will be preconditioned for approximately seven days in the elevated temperature test environment.

Two specimens each of GPUN and NYPA heats of hot rolled XM-19 will be tested in the BWR coolant environment and one specimen each will be tested in air as a control. In addition, one specimen of sensitized 304SS will be tested in the test environment as a control to assure adequacy of the test environment to produce IGSCC.

Following the test, specimens will be examined using conventional light microscopy and scanning electron microscopy. The specimens will be examined for indications of stress corrosion cracking on the fracture surface and along the gauge section. A minimum of two metallographic mounts will be evaluated for each specimen.