

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE PNO-1-06-012

Facility

Licensee Emergency Classification

AmerGen Energy Company, LLC
Oyster Creek
Forked River, New Jersey
Docket: 50-219

☐ Notification of Unusual Event
☐ Alert
☐ Site Area Emergency
☐ General Emergency
☒ Not Applicable

Subject: EVALUATION OF OYSTER CREEK CONTAINMENT DESIGN FUNCTION

The NRC staff conducted an extensive on-site review of AmerGen's actions to evaluate (1) the structural integrity of the primary containment relative to the existing licensing basis in consideration of any actual or potential corrosion, and (2) the significance of water that was identified in two trenches located inside the drywell during the on-going outage at the Oyster Creek Nuclear Generating Station (OCNGS). The NRC review involved a multi-week inspection of AmerGen's inservice inspection program, and included an assessment of license renewal commitments for the current outage and AmerGen's technical evaluation and structural integrity reports associated with the design basis for the primary containment (drywell). In accordance with the NRC's agreement with the State of New Jersey, State Engineers observed portions of the NRC's staff review. Based on the results of the NRC's inspection activities, the NRC concluded that there were no safety significant conditions with respect to the primary containment that would prohibit plant startup, and that there is reasonable assurance that the primary containment is capable of performing its design function throughout the upcoming operating cycle.

On November 7, 2006, the NRC staff received a letter from the Rutgers Environmental Law Clinic expressing concern that the NRC staff does not have reasonable assurance that the OCNGS meets safety requirements with respect to the drywell. The information provided in the letter was considered and does not alter the NRC staff's reasonable assurance determination.

In the mid-1980s, GPU Nuclear (as licensee) identified corrosion of the shell of the OCNGS containment drywell in the sandbed region. Initial licensee actions were not effective in arresting corrosion, and in 1992, all sand was removed from the sandbed region and the accessible exterior surfaces of the drywell shell were cleaned and coated with an epoxy paint. Ultrasonic test (UT) measurements of the drywell shell thickness were taken in 1992 and 1996, and indicated that the corrosion had been effectively arrested.

On October 16, 2006, OCNGS shut down for a refueling and maintenance outage. Scheduled outage work included expanded inservice inspection of the drywell shell thickness (UT) and material condition of accessible internal and external portions of the drywell (Visual Testing).

During the current outage, AmerGen Energy, LLC (the current licensee) obtained UT measurements of drywell shell thickness at many of the same locations as previously examined in the 1990s. UT measurements were taken in the former sandbed region, both inside and outside the drywell, and in two trenches cut into the concrete floor in two bays inside the

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drywell. These trenches permit access to the embedded portion of the drywell shell below the sandbed region. In addition, UT measurements were taken at various levels of the drywell shell from inside the drywell (the upper drywell shell is not accessible in these areas from the outside due to the concrete shield building).

The NRC staff inspection throughout the outage focused on:

- 1) Non-destructive examination results of the drywell shell and torus and related AmerGen evaluations.
- 2) AmerGen's efforts to identify and mitigate the source of water which accumulated in the trenches in the concrete floor inside the drywell. These efforts included tracer dye testing of the drywell leakage collection trough inside the reactor pedestal, inspection of the drywell sump, inspection and repair of the leakage collection trough, and caulking of the joint between the concrete drywell floor and the steel drywell shell.
- 3) Structural integrity of the concrete drywell floor and the condition of the embedded portion of the drywell shell.
- 4) The potential impact from various repairs to the containment on the design and licensing bases of the drywell.

The overall results of the staff's observations and review are:

- 1) All UT measurements are greater than the calculated minimum code required thickness for various plates that form the drywell shell.
- 2) There are no adverse conditions of the epoxy coating on the outside of the drywell shell in the former sandbed region.
- 3) Repairs in and around the trough within the reactor vessel pedestal area did not result in any adverse conditions.
- 4) The water discovered in the drywell trenches had no adverse impact on the structural integrity of the concrete floor or the potential for corrosion of the embedded portion of the drywell shell. AmerGen has taken actions to prevent further accumulation of water in this area.
- 5) There are no adverse conditions with respect to the drywell or torus structural integrity that preclude restart.

Based on a review of the technical information, the NRC staff determined that AmerGen has sufficient justification to restart OCNGS.

The State of New Jersey has been notified and no further updates are planned.

This PN is being issued for information only and will not be updated.

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CONTACT:

Ronald R. Bellamy
RRB1@nrc.gov
(610) 337-5200

Roy L. Fuhrmeister
RLF1@nrc.gov
(610) 337-5059

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