



FIGURE 6 - REACTOR CAVITY TROUGH DRAIN

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Any degraded coating or moisture barrier will be repaired.

- When the sand bed region drywell shell coating inspection is performed, the seal at the junction between the sand bed region concrete and the embedded drywell shell will be inspected per the Protective Coatings Program.

Through these commitments, AmerGen will minimize any water leakage through the reactor cavity liner that may occur during refueling outages, and prevent or minimize water from reaching the external surface of the drywell shell. These commitments were made with the expectation that corrosion of the external surface of the drywell shell will be minimized, thus maximizing the margin remaining above the design-required thicknesses of the drywell shell.

III. Findings and Analysis from the 2006 Outage

During the 1R21 (October 2006) refueling outage, AmerGen implemented its commitments related to preventing water from reaching the outer surface of the drywell shell and monitoring for evidence of water leakage. The results of these activities were successful. Based on daily observations of sandbed drain water collection bottles and upon numerous visual reports from the sand bed region, no water leakage onto the exterior surface of the drywell shell during 1R21 was evident and no corrective actions related to water leakage onto the shell were required (Ref [47]).

The reactor cavity was coated with a strippable coating prior to flooding the cavity for refueling activities. A small amount of leakage (approximately 1 gallon per minute (GPM)) was observed coming from the cavity trough drain line during the time period when the refueling cavity was flooded. Daily observations of the cavity trough drainage confirmed a steady stream of approximately 1 GPM during this period. Because this small amount of leakage did not exceed the drainage capacity of the trough, no water would have leaked onto the exterior surface of the drywell shell. The minor leakage was discharged to the plant's radwaste system as designed.

Specifically, AmerGen performed the following actions during the October 2006 refueling outage to prevent or minimize water leakage onto the exterior of the drywell shell. These activities are consistent with commitments made in AmerGen Letter 2130-06-20358 (Ref [39]).

- Applied a strippable coating to the reactor cavity liner prior to flooding the cavity for refueling activities.
- Verified that the reactor cavity trough drain was clear prior to flooding the reactor cavity for refueling activities.
- Monitored the trough drain for leakage daily while the cavity was flooded with water. Documented results identified only a steady "pencil stream" of water coming from the trough drain, indicating, as expected, that the leakage was being handled by the cavity trough drain system, keeping water away from the drywell shell.

- Inspected the five sand bed drain lines to verify they were clear; removed some debris from two of the drain lines.
- Inspected the five poly collection bottles associated with the sand bed drains on a daily basis. Documented results identified no leakage observed coming from the sand bed drains.
- Verified no water on the concrete floor in any of the ten bays of the sand bed region through visual inspection.
- Inspected the seal at the junction between the sand bed region floor and drywell shell in all 10 bays. The inspection revealed the seal at this junction to be in good condition with no repairs required.

IV. Conclusion

Oyster Creek historically experienced water leakage onto the external surface of the drywell shell as described in Section I above. Various investigative and corrective activities have been performed to understand the issue and prevent water from continuing to drain onto the shell during refueling activities.

As part of the License Renewal process, AmerGen has established specific commitments within the formal Exelon Passport commitment tracking system to ensure license renewal commitments, including those addressing water leakage onto the drywell shell external surface (described in Section II above), are implemented. In addition, the recurring tasks, preventive maintenance activities, and surveillance procedures that are used to implement these commitments are annotated such that it is clear from looking at them that the subject actions are associated with commitments made to the NRC. In this way, there are formal controls to ensure awareness and oversight of the activities and to ensure that commitments are implemented.

The inspections performed during the 2006 refueling outage (1R21) confirm that the license renewal-related committed actions for leakage prevention and monitoring prevented water from reaching the external surface of the drywell shell. AmerGen has committed to perform these preventive/monitoring actions in future refueling outages, with the objective of preventing water leakage onto the drywell shell exterior. In addition, commitments are in place to investigate and address any leakage onto the shell exterior, should it occur.

This set of actions, aimed at preventing water from reaching the external surface of the drywell shell, serve as an additional level of assurance beyond that provided by performing and trending drywell shell thickness measurements and conducting visual inspections of the epoxy coating in the sand bed region (also part of the IWE Aging Management Program), that corrosion is not impacting the ability of the drywell to perform its design functions.