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Date: 10/23/2006 5:22:28 PM
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Comm Doc - Drywell Inspections 10-23-06 alex.ppt	348160	23 October, 2006 5:22:12 PM

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Oyster Creek 1R21 Outage

Communication Package Related to Drywell Shell Inspections October 23, 2006

<date>

PRELIMINARY

1

1R21 Drywell Inspections

- Reactor Cavity Trough Drain Line
- Sand Bed Region Poly Bottles
- Sand Bed Drain Lines
- Epoxy Coating on External Surface of Drywell Sandbed in all 10 Bays
- Internal Drywell Shell in Sand Bed Region Above Floor Elevation
- Internal Drywell Shell in Upper Regions
- Seal at the junction between drywell shell and concrete floor in Sand Bed Region
- External Drywell Shell in Sand Bed Region
- Plate Thickness Transitions at Two Elevations
- Internal Drywell Shell in Trenches (Bays 5 and 17)

<date>

PRELIMINARY

2

Inspection Status (To Date)

- The reactor cavity trough drain line is not clogged and is successfully removing a small amount of water entering the trough. Daily water leakage monitoring continues (as planned, strippable coating was applied to reactor cavity before flood-up).
- There has been no water observed in the Sand Bed Regions and no water coming down through the air gap.
- There has been no water leakage from the Sand Bed Regions confirmed by the absence of water in the poly bottles. Daily monitoring of the poly bottles continues.
- Two of the five Sand Bed drain lines were found to have some blockage and debris. These will be cleaned prior to restart.
- The visual inspection of the epoxy coating on the external shell surface in the Sand Bed regions has been completed.
- The seal at the junction of the drywell shell and the concrete floor in the Sand Bed region has been inspected.

<date>

PRELIMINARY

3

Inspection Status (To Date)

- The Ultrasonic Inspections of the Interior Surface of the Drywell in the Sand Bed regions have been completed.
- The Ultrasonic Inspections of the Interior Surface of the Drywell in the Upper regions are in progress.
- The Ultrasonic Inspections of the Exterior Surface of the Drywell in the Sand Bed regions are completed.
- The Ultrasonic Inspections of the plate thickness transitions at two locations are in progress.
- The Ultrasonic Inspections of the Interior Surface of the Drywell in the Trenches in Bays 5 & 17 have been completed.

<date>

PRELIMINARY

4

Issues Identified

- Standing water was identified in the trench inside the Drywell at the Drywell floor level in Bay 5 when the foam fill was removed for planned inspections.
- Dampness was identified in the other trench in Bay 17; however, no standing water was present.
- The Drywell drain trough may be a contributor to water leakage into the trench in Bay 5.

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PRELIMINARY

5

Water in Bay 5 Trench

Description of Findings and Actions to Resolve this Issue

<date>

PRELIMINARY

6

Issue Description

- When performing planned Non Destructive Examinations of the Drywell Shell from inside the Drywell, water was found in a trench area below the floor elevation.
- A similar condition was identified in the mid 1990s and documented in the corrective action process.
- The source of this water needs to be understood and addressed, and any impact on the drywell shell or concrete evaluated and addressed.

<date>

PRELIMINARY

7

Drywell Design and Layout

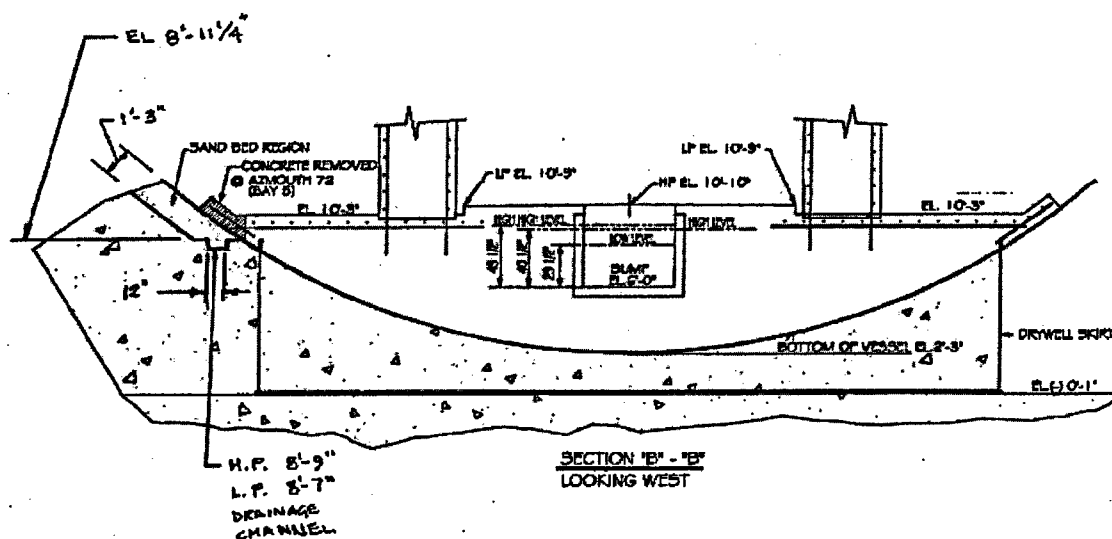
- The Drywell floor drain sump is located within the under-vessel area room
- A concrete trough encircles the under-vessel area to channel any leakage in the drywell to the drywell sump

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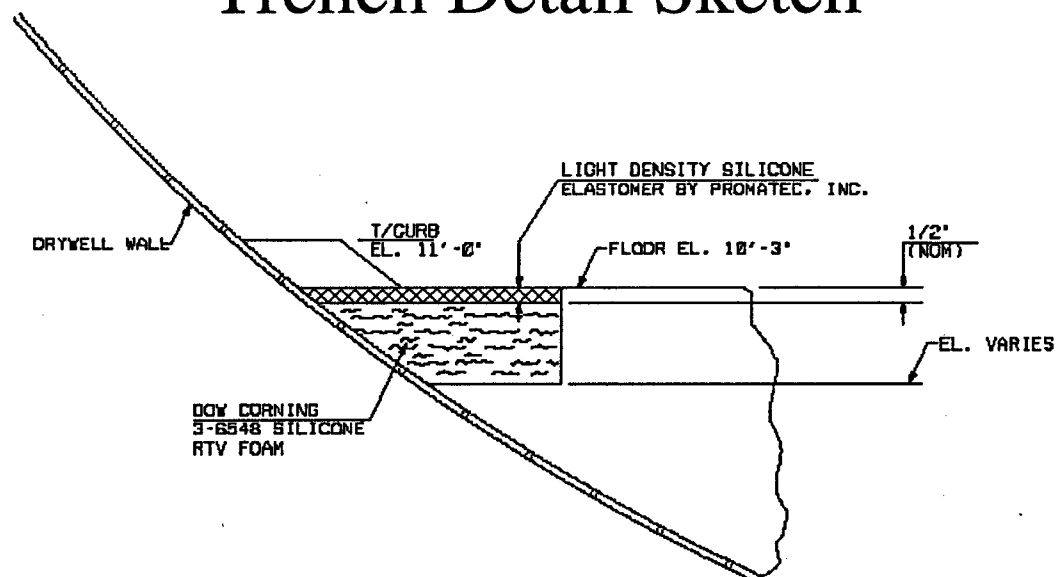
PRELIMINARY

8

Sketch Showing Lower Drywell - Sandbed, Trench and Sump

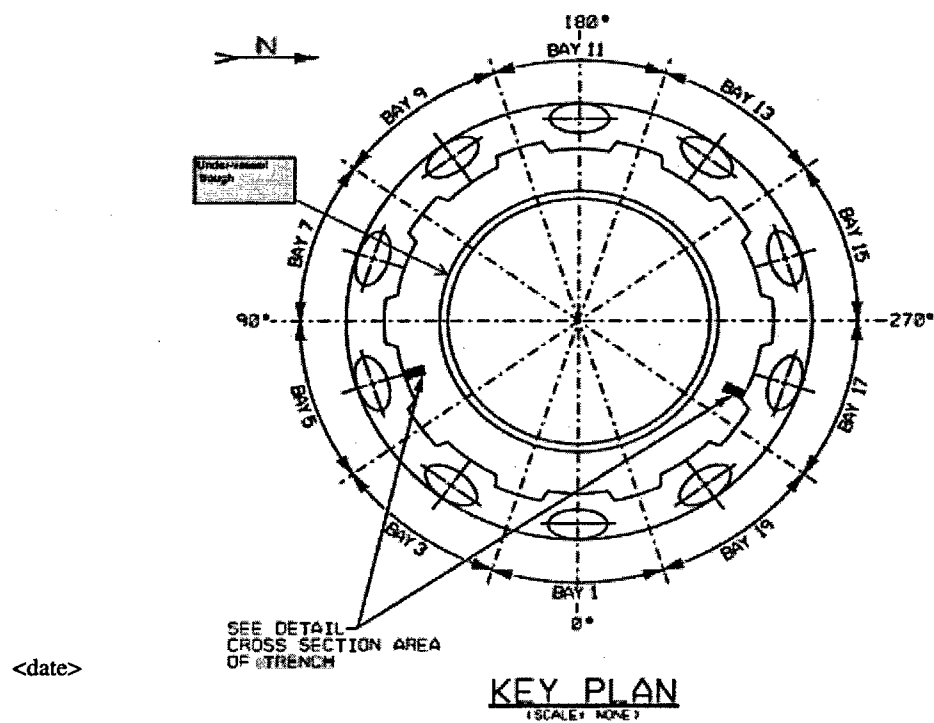


Trench Detail Sketch

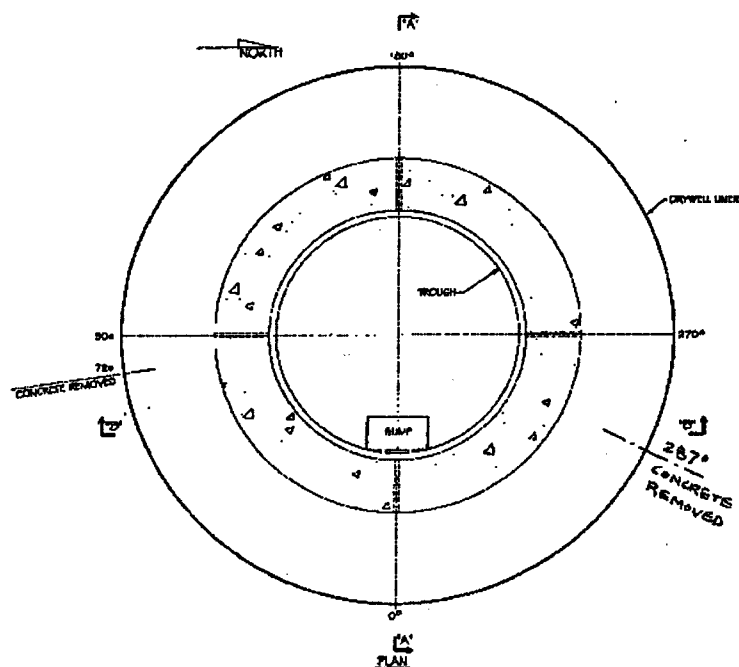


CROSS-SECTION AREA
OF TRENCHES IN BAYS 5 & 17

Plan View of Trough and Trenches



Top View – Drywell Floor Sketch



As Found Condition

- Surface of drywell shell visible from trenches in Bays 5 and 17 exhibited a surface layer of iron oxide
- Approximately 5" of water found in bottom of trench in Bay # 5, and trench in Bay 17 had only dampness
- Connection between under-vessel area trough and floor drain sump potentially allowing water leakage
- Trough located in the under-vessel area is not lined, potentially allowing water passage into the concrete slab

<date>

PRELIMINARY

13

Investigative/Corrective Actions Completed

- Visual inspections and pictures taken of sump, trough and trench areas
- Visual and Ultrasonic examinations of drywell shell in trench areas (as originally planned)
- Chemical Analysis of water samples from trench, sump and other areas
- Correlation and evaluation of water levels in sump, trough and trench areas

<date>

PRELIMINARY

14

Actions Planned/Pending

- Visual Examination (VT-1) of floor drain sump liner to look for evidence of a leak path
- Tracer test aimed at determining whether under-vessel trough is in communication with trench in Bay 5
- Development of contingency repair to trough to address likely water source into trench
- Complete non destructive examination and analysis of Drywell shell in trench areas
- Perform evaluation of the impact of water that may exist beneath concrete surface on drywell shell
- Development of contingency repair to caulk intersection of Drywell Shell and concrete slab curb

<date>

PRELIMINARY

15

Current Conclusions

- Preliminary Inspection Results indicate that the Drywell Shell
 - Retains its structural integrity
 - Provides margin to design safety function
 - Supports plant operation for the period of extended operation

<date>

PRELIMINARY

16