

## Sykes, Marvin

---

**From:** Chou, Rich *RZ*  
**Sent:** Thursday, November 05, 2009 1:46 PM  
**To:** Franke, Mark  
**Cc:** Sykes, Marvin; Ninh, Son; Khanna, Meena; Morrissey, Thomas; Reyes, Rogerio; Lake, Louis; Chou, Rich  
**Subject:** FW: Crystal River Containment Wall Opening Core Boring Pictures  
**Attachments:** 100\_0428.jpg; 100\_0429.jpg; 100\_0430.jpg; 100\_0431.jpg; 100\_0432.jpg *4*

Mark:

Pictures from left to right:

1. Top hole at right opening wall 2. Bottom hole at the right opening wall 3. Top hole at the left opening wall 4. Bottom hole at the left opening wall 5. No. 5 hole perpendicular to the wall at the left side

During the observation of Steam Generators OSG-A and OSG-B moved out, I noticed that there were 5-2" diameter holes drilled for core boring. Two holes were on each side of opening at 2 ft. from the bottom of the opening for the first hole and second hole was about 18 inches above the first hole. These four holes were drilled parallel to hoop tendons and were about 14 inches from the liner plate in the good concrete, no cracked area from each side of the cut area. Those 4 holes were about 14 inches deep. The no. 5 hole was about 2 ft. from the left edge of the opening and 2 ft from the bottom of the opening and was drilled perpendicular to the wall. This hole was about 10 to 12 inches deep and drilled to the cracked or delamination line. The outside face of the delamination was removed by the sample. The inside face of the delamination is still intact.

Based on my observation of the 4 holes parallel to the hoop tendons, the cut area was fresh, same texture, uniform grey color, and fine particle.

The No. 5 hole can be seen to have rough surface, fine bubble, different colors with some dark color, aged color, and total different texture from the other 4 holes. There is evidence that the delamination was not created recently by the hydraulic demolition or unbalanced tendon stress due to some tendon stresses nearby were not released. The delamination existed since the construction, due to the incomplete curing, and applied tension forces too early. There is also strongly to suggest that inadequate design without the radial rebars.

The containment wall delamination should be discovered during the extent of condition of the containment dome delamination. They were related since the original construction.

---

**From:** Reyes, Rogerio *RZ*  
**Sent:** Thursday, November 05, 2009 12:38 PM  
**To:** Chou, Rich  
**Subject:**

*F 28*

Your pictures

---

*J. Rogerio Reyes, P.E.*

*U.S. Nuclear Regulatory Commission*

*Resident Inspector*

*Crystal River Nuclear Power Plant*