

12/10/2009

Page 1

Powe	er Reactor	_				Event	# 455	559
R	Site: Unit: eactor Type: nment Type:	BELLEFC 1 2 [1] B&W-	DNTE <b>Region</b> R-LP (205),	: 2 <b>State</b> : AL [2] B&W-R-LP (205)	Notification Date / T Event Date / T Last Modifica	ime: 12/10/2009 ime: 12/10/2009 tion: 12/10/2009	16:23 (I (0	EST) CST)
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## CONTAINMENT VERTICAL TENDON FAILED

"Inspection of failed Unit 1 Reactor Building Containment Vertical Tendon V9 coupling indicates a potential for an unknown common mode failure mechanism for BLN Containment vertical tendon rock anchor couplings. Unit 1 Reactor Building Containment Vertical Tendon V9 experienced a failure of the rock anchor/tendon anchor coupling on August 17, 2009 at approximately 1400 CDT. The time of failure was identified based on a loud noise bang reported by several individuals. Initial investigation failed to reveal the source of the noise. The failed tendon was discovered on August 24, 2009 during a tour of U1 Tendon Gallery, elevation 607. Unsafe conditions previously precluded an inspection of the failed coupling for proper installation or component specific damage. The failed tendon coupling was inspected on 11/23/2009 and showed no signs of component specific damage or improper installation creating the potential for an unknown common mode failure.

## "Safety significance:

"Until the mechanism of failure is identified the extent of [the] condition will not be known. If multiple containment tendons are found to be losing the capability to carry tendon design force and this condition was left uncorrected, this could jeopardize the ability of the containment structure to perform its design function.

"Causes of deficiency:

"The cause of this deficiency is unknown at this time. Further analysis is in progress and when completed, an update to this report will be provided.

"Interim progress:



#### Power Reactor

Event # 45559

"Grease from the lower anchor head can has been analyzed for moisture content. Results were within vendor specifications. Additional samples have been sent for further analysis as described in Regulatory Guide 1.25 'In-service Inspection of Ungrouted Tendon in Prestressed Concrete Containments.'

"After successful safe securing of the tendon load, the failed coupling was visually inspected. The visual inspection of the failed coupling did not indicate a component-specific failure mechanism or indication of visually apparent common mode failure mechanism. Based on this inspection visual inspection of additional tendon coupling tendon couplers is not warranted at this time. The coupling has been removed from both the tendon anchorhead and the rock anchor tendon anchorhead and sent to the TVA Central Lab for metallurgical analysis.

"Records are being reviewed to identify previous non-conformance reports and certificates of compliances for the coupler. An extent of condition and extent of cause investigation will apply to vertical tendons are similar in design, these tendons do not utilize an anchorhead coupler in the design. However, these tendons will be considered in the analysis.

"Future updates:

"TVA plans to provide an update to this report by March 31, 2010 following the completion of the metallurgical analysis."

### NRC EVENT NOTIFICATION WORKSHEET Page 1 of 2

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