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W3F1-2006-0043

August 29, 2006

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

**SUBJECT:** Additional Information in Response to NRC Bulletin 2004-01, Inspection of Alloy 82/182/600 Materials Used In Pressurizer Penetrations and Steam Space Piping Connections  
Waterford Steam Electric Station, Unit 3  
Docket No. 50-382

- REFERENCES:**
- 1 NRC letter dated May 28, 2004, *NRC Bulletin 2004-01: Inspection of Alloy 82/182/600 Materials Used In the Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors*
  - 2 Entergy letter dated July 27, 2004, *Response to NRC Bulletin 2004-01 Regarding Inspection of Alloy 82/182/600 Materials Used In Pressurizer Penetrations and Steam Space Piping Connections (W3F1-2004-0058)*

Dear Sir or Madam:

On May 28, 2004, the Nuclear Regulatory Commission (NRC) issued NRC Bulletin 2004-01, *Inspection of Alloy 82/182/600 Materials Used In the Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors* (Reference 1). The NRC requested that all pressurized water reactor addressees provide description of their pressurizer heater and steam space penetrations and inspection plans for the forthcoming and subsequent refueling outages. On July 27, 2004 (Reference 2), Entergy provided the required response for the Waterford Steam Electric Station, Unit 3 (Waterford-3).

In the response, Entergy had noted that weld repairs/replacements were being planned during the spring 2005 refueling outage (RF-13) for the pressurizer heater and small bore Alloy 600 pressurizer nozzles and welds. The purpose of this letter is to confirm that associated repairs or replacements were performed. The attachment to this letter provides details on the repairs that were performed during the RF-13 outage.

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There are no commitments associated with this letter. If you have any questions or require additional information, please contact Steve Bennett at 479-858-4626.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Bennett". The signature is fluid and cursive, with a large initial "S" and "B".

RJM/SAB/ssf

Attachment: Repairs Performed on the Waterford-3 Pressurizer During the Spring 2005 Refueling Outage

cc: Dr. Bruce S. Mallett  
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**Attachment**

**W3F1-2006-0043**

**Repairs Performed on the Waterford-3 Pressurizer  
During the Spring 2005 Refueling Outage**

## **Repairs Performed on the Waterford-3 Pressurizer During the Spring 2005 Refueling Outage**

### **Heater Sleeves**

The Waterford-3 Pressurizer contains thirty (30) heater sleeves. Pressurizer Heater Sleeve F-4 was repaired during the fall 2000 refueling outage with an Alloy 690 plug. This plug was retained and no additional repairs or modifications were performed in the spring 2005 refueling outage (RF-13). The remaining twenty nine (29) nozzles were replaced using a half nozzle, mid-wall repair during RF-13. The half nozzle repair design relocates the reactor coolant pressure boundary from a partial penetration (J-groove) weld on the inside surface of the pressurizer to a partial penetration weld at the mid-wall of the pressurizer shell. The new pressure boundary for these sleeves is constructed with Alloy 690 materials.

### **Small Bore Pressurizer Penetrations**

The Waterford-3 Pressurizer contains six (6) small bore instrument nozzles and 1 (one) temperature nozzle located both in the steam and water space of the pressurizer. Two upper steam space nozzles were repaired in the spring of 1999 using Alloy 600 weld filler and two were repaired using Alloy 690 materials in the fall 2000 refueling outages. The 2 previously repaired nozzles using Alloy 600 weld filler, the temperature nozzle and the remaining two instrument nozzles, were replaced during RF-13 utilizing a new half-nozzle welded to a pad on the outside of the pressurizer shell using Alloy 690 half-nozzles and weld filler.

Note: There are 5 remaining large bore pressurizer welds and nozzles consisting of two 6-inch pressurizer relief valve nozzles, a spare 6-inch nozzle, the 4-inch pressurizer spray line, and 12-inch surge line. No repairs have been performed on these welds or nozzles to date.