



**Florida Power**  
A Progress Energy Company

Crystal River Nuclear Plant  
Docket No. 50-302  
Operating License No. DPR-72

Ref: 10 CFR 50.54(f)

August 22, 2002  
3F0802-07

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555-0001

**Subject:** Crystal River Unit 3 - Response to NRC Bulletin 2002-02, "Reactor Pressure Vessel Head and Vessel Head Penetration Nozzle Inspection Programs"

- References:**
1. NRC to FPC letter, 3N0802-07, dated August 9, 2002, NRC Bulletin 2002-02, "Reactor Pressure Vessel Head and Vessel Head Penetration Nozzle Inspection Programs"
  2. FPC to NRC letter, 3F1101-04, dated November 19, 2001, Crystal River Unit 3 - Information Requested in Item 5 of NRC Bulletin 2001-01, "Circumferential Cracking of Reactor Pressure Vessel Head Penetration Nozzles"
  3. FPC to NRC letter, 3F0302-11, dated March 28, 2002, "Crystal River Unit 3 - Response to NRC Bulletin 2002-01, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity"
  4. FPC to NRC letter, 3F0702-01, dated July 24, 2002, Crystal River Unit 3 - Supplemental Information Regarding the 15-Day Response to NRC Bulletin 2002-01, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity"

Dear Sir:

Pursuant to 10 CFR 50.54(f), Florida Power Corporation (FPC) is hereby providing the response to NRC Bulletin 2002-02, "Reactor Pressure Vessel Head and Vessel Head Penetration Nozzle Inspection Programs", for Crystal River Unit 3 (CR-3).

After careful consideration of the response options outlined in the Bulletin and FPC's commitment to replace the Reactor Pressure Vessel (RPV) head in the next Refueling Outage, this response is being submitted in accordance with option 2 of the "Required Response." FPC provided in References 2, 3 and 4, information regarding RPV head and Vessel Head Penetration (VHP) nozzle examinations performed for CR-3. The corrective actions included a commitment to replace the RPV head during the next Refueling Outage currently scheduled for fall 2003. FPC considers replacement of the RPV head as an "alternative course of action" to resolve the concerns associated with the Alloy 600 material.

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Reference 2 provided the results of the visual inspection of the Control Rod Drive Mechanism (CRDM) nozzle penetrations performed during Refueling Outage 12 (fall 2001) and the corrective actions taken as a result of leakage from a CRDM nozzle found during visual inspection. FPC provided information on the extent of condition of the cracking of CRDM nozzle #32 which included Ultrasonic Examination (UT) of eight additional nozzles. The results of the additional UT's indicated that there was no cracking in the eight CRDMs inspected.

As stated above and in Reference 3, CR-3 is planning to replace the RPV head in Refueling Outage 13 (13R), scheduled for fall 2003. The replacement RPV head is being designed to minimize the concerns for CRDM nozzle cracking and leakage associated with Primary Water Stress Corrosion Cracking (PWSCC) of the Alloy 600 nozzle material. Alloy 690 base and weld material will be used for the CRDM nozzles. Industry guidance is being developed for the inspection criteria of replacement Reactor Vessel Heads. CR-3 will utilize this guidance in the development of the replacement RPV head inspection schedule.

Reference 4 provided information including photos of the RPV head taken after cleaning. The inspections of the head verified that no significant deposits were left on the head and there was no evidence of wastage.

FPC believes that the results of the Refueling Outage 12 visual and UT examinations, and the corrective actions taken, provide reasonable assurance that the applicable regulations will continue to be met during the current fuel cycle.

The RPV head replacement planned for 13R provides confidence that the applicable regulations will continue to be met during subsequent cycles.

This letter establishes no additional regulatory commitments.

If you have any questions regarding this submittal, please contact Mr. Sid Powell, Supervisor, Licensing and Regulatory Programs at (352) 563-4883.

Sincerely,



Dale E. Young  
Vice President, Crystal River Nuclear Plant

DEY/lvc

xc: NRR Project Manager  
Regional Administrator, Region II  
Senior Resident Inspector

**STATE OF FLORIDA**  
**COUNTY OF CITRUS**

Dale E. Young states that he is the Vice President, Crystal River Nuclear Plant for Progress Energy; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information, and belief.

*Dale E Young*

Dale E. Young  
Vice President  
Crystal River Nuclear Plant

The foregoing document was acknowledged before me this 22<sup>nd</sup> day of August, 2002, by Dale E. Young.

*Lisa A Morris*

Signature of Notary Public  
State of Florida



LISA A. MORRIS  
Notary Public, State of Florida  
My Comm. Exp. Oct. 25, 2003  
Comm. No. CC 879691

LISA A MORRIS

(Print, type, or stamp Commissioned  
Name of Notary Public)

Personally Known X -OR- Produced Identification \_\_\_\_\_