



**James Scarola**  
Senior Vice President and Chief Nuclear Officer  
Progress Energy Carolinas, Inc.

Serial: NPD-NRC-2008-032  
September 17, 2008

10CFR52.79

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555-0001

**SHEARON HARRIS NUCLEAR POWER PLANT UNITS 2 AND 3  
DOCKET NOS. 52-022 AND 52-023  
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 006 RELATED TO  
EVALUATION OF POTENTIAL ACCIDENTS**

Reference: Letter from Manny Comar (NRC) to James Scarola (PEC), dated August 18, 2008,  
"Request for Additional Information Letter No. 006 Related to SRP Section  
02.02.03 for the Harris Units 2 and 3 Combined License Application"

Ladies and Gentlemen:

Progress Energy Carolinas, Inc. (PEC) hereby submits our response to the Nuclear Regulatory Commission's (NRC) request for additional information provided in the referenced letter.

A response to the NRC request is addressed in the enclosure. The enclosure also identifies changes that will be made in a future revision of the Shearon Harris Nuclear Power Plant Units 2 and 3 application.

If you have any further questions or need additional information, please contact Bob Kitchen at (919) 546-6992 or Garry Miller at (919) 546-6107.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on September 17, 2008.

Sincerely,

A handwritten signature in cursive script that reads 'James Scarola'. The signature is written in dark ink and is positioned below the word 'Sincerely,'. The signature is enclosed in a large, loopy 'S' shape that also serves as an enclosure indicator.

Enclosure

cc : U.S. NRC Director, Office of New Reactors/NRLPO  
U.S. NRC Office of Nuclear Reactor Regulation/NRLPO  
U.S. NRC Region II, Regional Administrator  
U.S. NRC Resident Inspector, SHNPP Unit 1  
Mr. Manny Comar, U.S. NRC Project Manager

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**Shearon Harris Nuclear Power Plant Units 2 and 3  
Response to NRC Request for Additional Information Letter No. 006 Related to SRP Section  
02.02.03 for the Combined License Application, dated August 18, 2008**

<u>NRC RAI #</u>	<u>Progress Energy RAI #</u>	<u>Progress Energy Response</u>
02.02.03-1	H-0043	Response enclosed – see following pages

**NRC Letter No.:** HAR-RAI-LTR-006

**NRC Letter Date:** August 18, 2008

**NRC Review of Final Safety Analysis Report**

**NRC RAI #:** 02.02.03-1

**Text of NRC RAI:**

RG 1.206 provides guidance regarding the information that is needed to ensure potential hazards in the site vicinity are identified and evaluated to meet the siting criteria in 10 CFR 100.20 and 10 CFR 100.21. Please clarify the discrepancy in addressing two different distances 8214 ft and 2464 ft from the Dixie Pipeline Company to the critical plant structures in Section 2.2.3.1.2, and also provide details for the conclusion that 1.3 psi (that exceeds the criterion of 1 psi) would result in 'local damage'. What constitutes 'local damage' at 1.3 psi overpressure. Please provide the details of analysis and conclusion.

**PGN RAI ID #:** H-0043

**PGN Response to NRC RAI:**

The discrepancy in the two different distances of 8214 ft and 2464 ft listed in the FSAR text is that the 8214 ft distance is the actual distance from the Dixie Pipeline Company pipeline to the critical plant structures while the 2464 ft distance is the distance of the closest approach of the detonable propane-air cloud mixture to the critical plant structures following a postulated failure of the pipeline. The 2464 ft distance is the distance used in determining the subsequent potential overpressure. This text will be revised in a future amendment to the document.

The term "local damage" was used to indicate that no structural damage would be imparted to critical plant structures (taken as the seismic Category I structures defined in DCD section 3.8) which are constructed of reinforced concrete and steel. The guideline value of 1 psi listed in Regulatory Guide 1.91 is a conservative threshold value for overpressure damage to occur. Overpressure damage consequences are provided in numerous references. A discussion of overpressure is provided in the USEPA/NOAA ALOHA, Areal Locations of Hazardous Atmospheres, User's Manual dated February, 2006. Typical overpressure damage estimates are provided on page 12 of the manual. For example, at 0.5 – 1 psi glass windows usually shatter; at 1.0 – 2.0 psi corrugated metal panels fail and buckle and housing wood panels blow in. It takes 2.0 – 3.0 psi to shatter non reinforced concrete or cinder block walls. As noted above, the plant structures are constructed of reinforced concrete and steel, therefore no damage would occur at 1.3 psi. Since the phrase local damage is ambiguous, the FSAR text will be revised to affirmatively state the positive conclusion regarding critical structures.

**Associated HAR COL Application Revisions:**

Revise the first sentence of the third paragraph of FSAR Section 2.2.3.1.2 from:

The evaluation concludes that a pipeline failure, should it occur, would result in local damage, but would not result in damage to the HAR 2 and HAR 3 critical facilities that could impede the continued safe operation or prevent safe shutdown of the plant.

To read:

The evaluation concludes that a pipeline failure, should it occur, would not result in damage to the HAR 2 and HAR 3 critical facilities that could impede the continued safe operation or prevent safe shutdown of the plant.

Revise the fourth bullet of the third paragraph of FSAR section 2.2.3.1.2 from:

- The closest point of approach of the pipeline to the plant critical structures is estimated at 751 m (2464 ft.) and is the value used for determining overpressure.

To read:

- The closest point of approach of the detonable propane-air cloud mixture to the plant critical structures is estimated at 751 m (2464 ft.) and is the value used for determining overpressure.

**Attachments/Enclosures:**

None.