



Serial: NPD-NRC-2009-200
August 31, 2009

10 CFR 52.79

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. 065 RELATED TO
INTERFACES**

Reference: Letter from Sujata Goetz (NRC) to James Scarola (PEC), dated August 5, 2009,
"Request for Additional Information Letter No. 065 Related to SRP Section 01 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 me at (919) 546-6107.

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

Executed on August 31, 2009.

Sincerely,

A handwritten signature in black ink that reads 'Garry D. Miller'.

Garry D. Miller
General Manager
Nuclear Plant Development

Enclosure

cc : U.S. NRC Region II, Regional Administrator
U.S. NRC Resident Inspector, SHNPP Unit 1
Mr. Brian Hughes, U.S. NRC Project Manager

**Shearon Harris Nuclear Power Plant Units 2 and 3
Response to NRC Request for Additional Information Letter No. 065 Related to
SRP Section 01 for the Combined License Application, dated August 5, 2009**

<u>NRC RAI #</u>	<u>Progress Energy RAI #</u>	<u>Progress Energy Response</u>
01-3	H-0482	Response enclosed – see following pages

NRC Letter No.: HAR-RAI-LTR-065

NRC Letter Date: August 5, 2009

NRC Review of Final Safety Analysis Report

NRC RAI NUMBER: 01-3

Text of NRC RAI:

The applicant incorporated by reference Section 1.8 of the DCD. This section of the DCD identifies certain interfaces with the standard design that have to be addressed in accordance with 10 CFR 52.47(a)(1)(vii)(Note: following the update to Part 52, this provision has changed to 52.47(a)(25)). As required by 52.79(d)(2), the COL applicant must demonstrate how these interface items have been met. PEC must explicitly identify how these interface items have been met.

PGN RAI ID #: H-0482

PGN Response to NRC RAI:

Explicit identification of the FSAR location of information addressing the interface items identified in Section 1.8 of the DCD is provided in new FSAR Table 1.8-203, as shown in the Application Revisions section below. Some clarifying remarks are provided below for a few items that have been addressed by the DCD since the interface item listing was created. During the COL review to develop the new FSAR table, it was also determined that additional information is necessary for a few items. Westinghouse Electric Company has agreed to remove items 1.1, 18.4, and 18.5 from the DCD Section 1.8 table listing of interfaces.

Item 3.3 - The information for the "trigger" value of the site seismic sensor is not currently in the FSAR, but will be included in a future revision as shown in the Application Revision section below.

Item 8.3 - The information on the protective devices controlling the switchyard breakers is not currently in the FSAR, but will be included in a future revision as shown in the Application Revision section below.

Item 11.1 – Note that there are no radioactive liquid waste systems outside the AP1000 design scope and thus, there are no site-specific parameters. There is one site-specific interface; the liquid radwaste system (WLS) effluent release point is where the WLS connects to the cooling tower blowdown pipe (FSAR Figure 10.4-201).

Item 11.2 – This information is not currently in the FSAR, but will be included in a future revision as shown in the Application Revision section below. Note that there are no gaseous waste systems outside the AP1000 design scope and thus, there are no site-specific parameters or interfaces.

The information shown below will be incorporated into a future revision of the COLA.

Associated HAR COL Application Revisions:

The following changes will be made to the HAR FSAR in a future revision:

1. COLA Part 2, FSAR Chapter 1, Section 1.8, will be revised to include the following new paragraph at the end of the section with a left margin annotation (LMA) of HAR SUP 1.8-3:

DCD Table 1.8-1 presents interface items for the AP1000. FSAR section(s) addressing these interface items are tabulated in Table 1.8-203.

2. COLA Part 2, FSAR Chapter 1, Section 1.8, will be revised to include the following new table with an LMA of HAR SUP 1.8-3:

**Table 1.8-203
Summary of FSAR Discussions of AP1000 Plant Interfaces**

Item No.	Interface	Interface Type	Matching Interface Item	Section ⁽¹⁾ or Subsection
2.1	Envelope of AP1000 plant site related parameters	Site Interface	Site-specific parameters	Table 2.0-201
2.2	External missiles from man-made hazards and accidents	Site Interface	Site-specific parameters	2.2.2.2, 2.2.3.1, 3.5
2.3	Maximum loads from man-made hazards and accidents	Site Interface	Site-specific parameters	2.2.2.2, 2.2.3.1, 3.5
2.4	Limiting meteorological parameters (χ/Q) for design basis accidents and for routine releases and other extreme meteorological conditions for the design of systems and components exposed to the environment.	Site Interface	Site-specific parameters	Table 2.0-201
2.5	Tornado and operating basis wind loadings	Site Interface	Site-specific parameters	Table 2.0-201
2.6	External missiles generated by natural phenomena	Site Interface	Site-specific parameters	Table 2.0-201
2.7	Snow, ice and rain loads	Site Interface	Site-specific parameters	Table 2.0-201

Item No.	Interface	Interface Type	Matching Interface Item	Section ⁽¹⁾ or Subsection
2.8	Ambient air temperatures	Site Interface	Site-specific parameters	Table 2.0-201
2.9	On-site meteorological measurement program	Requirement of AP1000	Combined License applicant program	2.3.3
2.10	Flood and ground water elevations	Site Interface	Site-specific parameters	Table 2.0-201
2.11	Hydrostatic loads on systems, components and structures	Site Interface	Site-specific parameters	Table 2.0-201, 2.4.12.5, 2.5.4.10.4
2.12	Seismic parameters - peak ground acceleration - response spectra - shear wave velocity	Site Interface	Site-specific parameters	Table 2.0-201
2.13	Required bearing capacity of foundation materials	Site Interface	Site-specific parameters	Table 2.0-201
3.1	Deleted	N/A	N/A	N/A
3.2	Operating procedures to minimize water hammer	Requirement of AP1000	Combined License applicant procedure	10.3.2.2.1, 10.4.7.2.1
3.3	Site seismic sensor location and "trigger" value	Requirement of AP1000	On-site implementation	3.7.4.2.1
3.4	Depth of overburden	Requirement of AP1000	On-site implementation	3.8.5.1, 2.5.4
3.5	Depth of embedment	Requirement of AP1000	On-site implementation	3.8.5.1, 2.5.4
3.6	Specific depth of waterproofing	Requirement of AP1000	On-site implementation	2.5.4.3
3.7	Foundation Settlement Monitoring	Requirement of AP1000	Combined License applicant coordination	2.5.4.10.3.7
3.8	Lateral earth pressure loads	Not an Interface	N/A	N/A to FSAR; see DCD

Item No.	Interface	Interface Type	Matching Interface Item	Section⁽¹⁾ or Subsection
3.9	Preoperational piping vibration test parameters	Not an Interface	N/A	N/A to FSAR; see DCD
3.10	Inservice Inspection requirements and locations	Requirement of AP1000	Combined License applicant program	5.2.4, 6.6
3.11	Maintenance of preservice and reference test data for inservice testing of pumps and valves	Requirement of AP1000	Combined License applicant program	3.9.6
3.12	Earthquake response procedures	Requirement of AP1000	Combined License applicant program	3.7.4.4
5.1	Steam Generator Tube Surveillance Requirements	Requirement of AP1000	Combined License applicant program	5.4.2.5
6.1	Inservice Inspection requirements for the containment	Requirement of AP1000	Combined License applicant program	6.6
6.2	Off site environmental conditions assumed for Main Control Room and technical support center habitability design	AP1000 Interface	Site-specific parameter	2.2.3, 6.4
7.1	Listing of all design criteria applied to the design of the I&C systems	Not an Interface	N/A	N/A to FSAR; see DCD
7.2	Power required for site service water instrumentation	NNS and Not an Interface	N/A	N/A to FSAR; see DCD
7.3	Other provisions for site service water instrumentation	NNS and Not an Interface	N/A	N/A to FSAR; see DCD
8.1	Listing of design criteria applied to the design of the off-site power system	NNS	Combined License applicant coordination	8.1.4.3

Item No.	Interface	Interface Type	Matching Interface Item	Section ⁽¹⁾ or Subsection
8.2	Off-site ac requirements: - Steady-state load; - Inrush kVA for motors; - Nominal voltage; - Allowable voltage regulation; - Nominal frequency; - Allowable frequency fluctuation; - Maximum frequency decay rate; - Limiting under frequency value for RCP	NNS	Combined License applicant coordination	8.2.2
8.3	Off-site transmission system analysis: - Loss of AP1000 or largest unit; - Voltage operating range; - Transient stability must be maintained and the RCP bus voltage must remain above the voltage required to maintain the flow assumed in Chapter 15 analyses for a minimum of three (3) seconds following a turbine trip.; - The protective devices controlling the switchyard breakers are set with consideration given to preserving the plant grid connection following a turbine trip.	NNS	Combined License applicant analysis	8.2.2 8.2.1.2.1
8.4	Listing of design criteria applied to the design of on-site ac power systems	NNS and Not an Interface	N/A	N/A to FSAR; see DCD
8.5	On-site ac requirements	NNS and Not an Interface	N/A	N/A to FSAR; see DCD
8.6	Diesel generator room coordination	NNS and Not an Interface	N/A	N/A to FSAR; see DCD
8.7	Listing of design criteria applied to the design of on-site dc power systems	Not an Interface	N/A	N/A to FSAR; see DCD

Item No.	Interface	Interface Type	Matching Interface Item	Section⁽¹⁾ or Subsection
8.8	Provisions of dc power systems to accommodate the site service water system	NNS and Not an Interface	N/A	N/A to FSAR; see DCD
9.1	Listing of design criteria applied to the design of portions of the site service water within AP1000	NNS and Not an Interface	N/A	N/A to FSAR; see DCD
9.2	Integrated heat load to site service water system	NNS and Not an Interface	N/A	N/A to FSAR; see DCD
9.3	Plant cooling water systems parameters	NNS and Not an Interface	N/A	N/A to FSAR; see DCD
9.4	Plant makeup water quality limits	NNS	Site-specific parameter	9.2.11
9.5	Requirements for location and arrangement of raw and sanitary water systems	NNS	Site implementation	9.2.5.2.1
9.6	Ventilation requirements for diesel-generator room	NNS and Not an Interface	N/A	N/A to FSAR; see DCD
9.7	Requirements to satisfy fire protection program	AP1000 Interface	Combined License applicant program	9.5.1
11.1	Expected release rates of radioactive material from the Liquid Waste System including: - Location of release points - Effluent temperature - Effluent flow rate - Size and shape of flow orifices	Site Interface	Site-specific parameters	11.2
11.2	Expected release rates of radioactive materials from the Gaseous Waste System including: - Location of release points - Height above grade - Height relative to adjacent buildings - Effluent temperature - Effluent flow rate - Effluent velocity - Size and shape of flow orifices	Site Interface	Site-specific parameters	11.3

Item No.	Interface	Interface Type	Matching Interface Item	Section ⁽¹⁾ or Subsection
11.3	Expected release rates of radioactive material from the Solid Waste System including: - Location of release points - Material types - Material qualities - Size and shape of material containers	Site Interface	Site-specific parameters	11.4.6
11.4	Requirements for off-site sampling and monitoring of effluent concentrations	AP1000 Interface	Combined License applicant program	11.5.4, 11.5.8
12.1	Identification of miscellaneous radioactive sources	AP1000 Interface	Combined License applicant program	12.2.1.1.10
13.1	Features that may affect plans for coping with emergencies as specified in 10 CFR 50, Appendix O	AP1000 Interface	Combined License applicant program	13.3
13.2	Physical Security Plan consistent with AP1000 plant	AP1000 Interface	Combined License applicant program	13.6
14.1	Identification of special features to be considered in development of the initial test program	Requirement of AP1000	Combined License applicant program	14
14.2	Maintenance of preoperational test data and inservice inspection baseline data	AP1000 Interface	Combined License applicant program	14
16.1	Administrative requirements associated with reliability information maintenance	AP1000 Interface	Combined License applicant program	16
16.2	Administrative requirements associated with the Technical Specifications	Requirement of AP1000	Combined License applicant implementation	16

Item No.	Interface	Interface Type	Matching Interface Item	Section ⁽¹⁾ or Subsection
16.3	Site and operator related information associated with the Reliability Assurance Program (D-RAP)	Requirement of AP1000	Combined License applicant program	16.2
18.1	Operating staff consistent with Human Factors evaluations	AP1000 Interface	Combined License applicant program	18.6
18.2	Operator training consistent with Human Factors evaluations	AP1000 Interface	Combined License applicant program	18.10
18.3	Operating Procedures consistent with Human Factors evaluations	AP1000 Interface	Combined License applicant program	18.6, 18.14

Note 1 – This table supplements DCD Table 1.8-1 by providing additional information in the Section or Subsection column.

3. COLA Part 2, FSAR Chapter 3, Subsection 3.7.4.2.1 will be revised to add the following sentence to the end of the existing FSAR added text:

The trigger value is initially set at 0.01g.

4. COLA Part 2, FSAR Chapter 8 will be revised to add the following paragraph at the end of Subsection 8.2.1.2.1:

The protective devices controlling the switchyard breakers are set with consideration given to preserving the plant grid connection following a turbine trip.

5. COLA Part 2, FSAR Chapter 11, Section 11.2 will be revised to add the following subsection with LMA of HAR SUP 11.2-2:

11.2.1.2.4 Controlled Release of Radioactivity

Add the following new paragraph to the end of DCD Subsection 11.2.1.2.4:

The HAR site WLS effluent discharge release point is where the WLS effluent discharge pipe connects to the cooling tower blowdown pipe.

6. COLA Part 2, FSAR Chapter 11, Section 11.3 will be revised to add the following subsection with LMA of STD SUP 11.3-2:

11.3.3 Radioactive Releases

Add the following new paragraph at the end of DCD Subsection 11.3.3:

There are no gaseous effluent site interface parameters outside of the Westinghouse scope.

Attachments/Enclosures:

None.