



NOV 14 2006

SERIAL: HNP 06-0137
10 CFR 54

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

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400/LICENSE NO. NPF-63

SYSTEMS DRAWINGS SUPPORTING LICENSE RENEWAL

REFERENCE: Letter from Cornelius J. Gannon to the U. S. Nuclear Regulatory Commission (Serial: HNP-06-0136), "Application for Renewal of Operating License," dated November 14, 2006

Ladies and Gentlemen:

On November 14, 2006, Carolina Power & Light (CP&L) Company, doing business as Progress Energy Carolinas, Inc. (PEC), submitted an application to the Nuclear Regulatory Commission (NRC) for the renewal of the operating license for the Shearon Harris Nuclear Power Plant, Unit No. 1, also known as the Harris Nuclear Plant (HNP). In support of this application, system drawings were prepared for the majority of mechanical systems to supplement license renewal scoping calculations and provide a visual representation of portions of mechanical systems within the scope of license renewal. The drawings were developed using existing system flow diagrams, where available, and they have been highlighted to show the system boundaries associated with fulfilling one or more system intended functions as discussed in 10 CFR 54.4(b). These drawings are not part of the official application for license renewal; however, PEC is making them available to the NRC staff as additional information to support a more efficient review.

The enclosure to this letter contains an index of drawings supporting HNP license renewal. Three sets of the referenced drawings are being provided to NRR (i.e., Mr. Maurice Heath, the License Renewal Project Manager for HNP), and one set is being provided to the NRC Region II Regional Administrator.

Progress Energy Carolinas, Inc.
Harris Nuclear Plant
P. O. Box 165
New Hill, NC 27562

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Please refer any questions regarding this submittal to Mr. Roger Stewart, Supervisor - License Renewal, at (843) 857-5375.

Sincerely,



Dave Corlett
Supervisor - Licensing/Regulatory Programs
Harris Nuclear Plant

MHF/mhf

Enclosure:

License Renewal Scoping Drawing Index

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Mr. P. O'Bryan, NRC Senior Resident Inspector
Mr. M. L. Heath, NRC License Renewal Project Manager
Dr. W. D. Travers, NRC Regional Administrator
Mr. C. P. Patel, NRC Project Manager
Ms. B. O. Hall, Section Chief N.C. DENR

LICENSE RENEWAL SCOPING DRAWINGS

| Drawing Legend and Scoping Notes | |
|---|-----------------------|
| Scoping Drawing Legend | 5-G-0041-LR |
| Scoping Notes for Miscellaneous Systems | Scoping Notes Drawing |

| Reactor Vessel, Internals, and Reactor Coolant System | |
|--|-----------------------|
| Reactor Vessel and Internals | 5-G-0800-LR |
| | 5-G-0844-LR |
| Incore Instrumentation System | Scoping Notes Drawing |
| Reactor Coolant System | 5-G-0800-LR |
| | 5-G-0801-LR |
| | 5-G-0844-LR |
| Reactor Coolant Pump and Motor | 5-G-0800-LR |
| Pressurizer | 5-G-0801-LR |
| | 5-G-0809-LR |
| Steam Generator | 5-G-0044-LR |
| | 5-G-0800-LR |

| Engineered Safety Features | |
|--|-----------------|
| Containment Spray System | 5-G-0050-LR |
| High Head Safety Injection System | 5-G-0808-LR |
| | 5-G-0809-LR |
| | 5-G-0810-LR |
| Low Head Safety Injection and Residual Heat Removal System | 5-G-0810-LR |
| | 5-G-0824-LR |
| Passive Safety Injection System | 5-G-0809-LR |
| | 5-G-0810-LR |
| Control Room Area Ventilation System | 8-G-0517 S04-LR |

| Auxiliary Systems | |
|------------------------------------|-------------|
| Chemical and Volume Control System | 5-G-0801-LR |
| | 5-G-0803-LR |
| | 5-G-0804-LR |
| | 5-G-0805-LR |
| | 5-G-0806-LR |
| | 5-G-0807-LR |
| | 5-G-0817-LR |
| | 5-G-0829-LR |
| | 5-G-0804-LR |
| Boron Thermal Regeneration System | 5-G-0806-LR |
| | 5-G-0806-LR |
| Primary Makeup System | 5-G-0052-LR |
| | 5-G-0299-LR |
| | 5-G-0806-LR |
| | 5-G-0811-LR |
| | 5-G-0814-LR |
| | 5-G-0829-LR |
| Primary Sampling System | 5-G-0052-LR |
| | 5-G-0814-LR |
| Post-Accident Sampling System | 5-G-0052-LR |
| | 5-G-0105-LR |
| Circulating Water System | 5-G-0047-LR |
| | 5-G-0048-LR |

LICENSE RENEWAL SCOPING DRAWINGS (continued)

| Auxiliary Systems (continued) | |
|---|-----------------------|
| Cooling Tower System | 5-G-0048-LR |
| Cooling Tower Make-Up System | 5-G-0048-LR |
| Screen Wash System | 5-G-0308-LR |
| Main Reservoir Auxiliary Equipment | 5-G-0308-LR |
| Auxiliary Reservoir Auxiliary Equipment | 5-G-0308-LR |
| Normal Service Water System | 5-G-0047-LR |
| | 5-G-0048-LR |
| | 5-G-0436-LR |
| Emergency Service Water System | 5-G-0047-LR |
| | 5-G-0052-LR |
| | 5-G-0436-LR |
| Component Cooling Water System | 5-G-0184-LR |
| | 5-G-0187-LR |
| | 5-G-0299-LR |
| | 5-G-0819-LR |
| | 5-G-0820-LR |
| | 5-G-0821-LR |
| | 5-G-0822-LR |
| 5-G-0822 S01-LR | |
| Waste Processing Building Cooling Water System | 5-G-0876-LR |
| Essential Services Chilled Water System | 8-G-0498-LR |
| | 8-G-0498 S02-LR |
| | 8-G-0499-LR |
| | 8-G-0499 S02-LR |
| Non-Essential Services Chilled Water System | 8-G-0497 S01-LR |
| Emergency Screen Wash System | 5-G-0308-LR |
| Generator Gas System | Scoping Notes Drawing |
| Hydrogen Seal Oil System | Scoping Notes Drawing |
| Emergency Diesel Generator System | 5-G-0133-LR |
| Diesel Generator Fuel Oil Storage and Transfer System | 5-G-0063-LR |
| Diesel Generator Lubrication System | 5-G-0133-LR |
| Diesel Generator Cooling Water System | 5-G-0133-LR |
| Diesel Generator Air Starting System | 5-G-0133-LR |
| Security Power System | 5-G-0271-LR |
| Instrument Air System | 5-G-0301-LR |
| Service Air System | 5-G-0300-LR |
| Bulk Nitrogen Storage System | 5-G-0829-LR |
| Hydrogen Gas System | 5-G-0058-LR |
| Site Fire Protection | 5-G-0055-LR |
| | 5-G-0056-LR |
| | 5-G-0057-LR |
| | 5-G-0388-LR |
| | 5-G-0406-LR |
| | 5-G-0485-LR |
| | 5-S-0906 S04-LR |
| Storm Drain System | Scoping Notes Drawing |
| Oily Drains System | 5-G-0133-LR |
| | 5-G-0485-LR |

LICENSE RENEWAL SCOPING DRAWINGS (continued)

| Auxiliary Systems (continued) | |
|---|-----------------|
| Radioactive Floor Drains System | 5-G-0090-LR |
| | 5-G-0184-LR |
| | 5-G-0185-LR |
| | 5-G-0187-LR |
| | 5-G-0427-LR |
| | 5-G-0428-LR |
| | 5-G-0816-LR |
| | 5-G-0866-LR |
| Radioactive Equipment Drains System | 5-G-0168-LR |
| | 5-G-0184-LR |
| | 5-G-0185-LR |
| | 5-G-0187-LR |
| | 5-G-0427-LR |
| | 5-G-0428-LR |
| | 5-G-0813-LR |
| | 5-G-0814-LR |
| Secondary Waste System | 5-G-0090-LR |
| | 5-G-0184-LR |
| | 5-G-0185-LR |
| | 5-G-0187-LR |
| | 5-G-0428-LR |
| | 5-G-0429-LR |
| | 5-G-0485-LR |
| | 5-G-0814-LR |
| | 5-G-0816-LR |
| | 5-G-0819-LR |
| 5-G-0825 S01-LR | |
| Laundry and Hot Shower System | 5-G-0184-LR |
| | 5-G-0185-LR |
| | 5-G-0187-LR |
| | 5-G-0427-LR |
| | 5-G-0816-LR |
| | 5-G-0825 S01-LR |
| Upflow Filter System | 5-G-0049 S01-LR |
| | 5-G-0308-LR |
| Potable and Sanitary Water System | 5-G-0049 S01-LR |
| | 5-G-0436-LR |
| Demineralized Water System | 5-G-0049 S02-LR |
| | 5-G-0299 -LR |
| Filter Backwash System | 5-G-0829 -LR |
| | 5-G-0847 -LR |
| Radiation Monitoring System | 5-G-0105-LR |
| | 8-G-0517-LR |
| | 8-G-0517 S03-LR |
| | 8-G-0533-LR |
| | 8-G-0533 S07-LR |
| Oily Waste Collection and Separation System | 8-G-0562-LR |
| | 5-G-0133-LR |
| | 5-G-0185-LR |
| | 5-G-0485-LR |

LICENSE RENEWAL SCOPING DRAWINGS (continued)

| Auxiliary Systems (continued) | |
|--|-----------------------|
| Liquid Waste Processing System | 5-G-0090-LR |
| | 5-G-0429-LR |
| | 5-G-0804-LR |
| | 5-G-0805-LR |
| | 5-G-0806-LR |
| | 5-G-0811-LR |
| | 5-G-0813-LR |
| | 5-G-0814-LR |
| | 5-G-0816-LR |
| | 5-G-0817-LR |
| | 5-G-0829-LR |
| 5-G-0847-LR | |
| Secondary Waste Treatment System | 5-G-0090-LR |
| Boron Recycle System | 5-G-0189-LR |
| | 5-G-0810-LR |
| | 5-G-0811-LR |
| | 5-G-0812-LR |
| | 5-G-0813-LR |
| | 5-G-0814-LR |
| Gaseous Waste Processing System | 5-G-0829-LR |
| | 5-G-0813-LR |
| | 5-G-0817-LR |
| Radwaste Sampling System | 5-G-0818-LR |
| | 5-G-0050-LR |
| Refueling System | 5-G-0429-LR |
| | 5-G-0166-LR |
| New Fuel Handling System | Scoping Notes Drawing |
| Spent Fuel System | Scoping Notes Drawing |
| Spent Fuel Pool Cooling System | 5-G-0305-LR |
| | 5-G-0307-LR |
| Spent Fuel Pool Cleanup System | 5-G-0061-LR |
| | 5-G-0062-LR |
| Spent Fuel Cask Decontamination and Spray System | 5-S-0549 S03-LR |
| Spent Resin Storage and Transfer System | 5-G-0828-LR |
| Containment Auxiliary Equipment | Scoping Notes Drawing |
| Containment Liner Penetration Auxiliary Equipment | 5-S-2170-LR |
| Security Building HVAC System | 8-G-0571 S10-LR |
| Containment Vacuum Relief System | 8-G-0517-LR |
| | 8-G-0517 S05-LR |
| Bridge Crane Equipment | Scoping Notes Drawing |
| Containment Pressurization System | 6-S-0916-LR |
| Penetration Pressurization System | 5-G-0166-LR |
| Containment Cooling System | 8-G-0517-LR |
| Airborne Radioactivity Removal System | 8-G-0517-LR |
| Containment Atmosphere Purge Exhaust System | 8-G-0517-LR |
| Control Rod Drive Mechanism Ventilation System | 8-G-0517-LR |
| Primary Shield and Reactor Supports Cooling System | 8-G-0517-LR |
| Fuel Cask Handling Crane System | Scoping Notes Drawing |

LICENSE RENEWAL SCOPING DRAWINGS (continued)

| Auxiliary Systems (continued) | |
|---|-----------------------|
| Reactor Auxiliary Building Ventilation System | 8-G-0517-LR |
| | 8-G-0517 S02-LR |
| | 8-G-0517 S03-LR |
| | 8-G-0517 S05-LR |
| | 8-G-0517 S06-LR |
| | 8-G-0532 S05-LR |
| Emergency Service Water Intake structure Ventilation System | 8-G-0548-LR |
| Turbine Building Area Ventilation System | 8-G-0548 S02-LR |
| | 8-G-0562-LR |
| Waste Processing Building HVAC System | 8-G-0533 S03-LR |
| | 8-G-0533 S05-LR |
| | 8-G-0533 S06-LR |
| | 8-G-0533 S07-LR |
| Diesel Generator Building Ventilation System | 8-G-0548-LR |
| Fuel Oil Transfer Pump House Ventilation System | 8-G-0548-LR |
| Fuel Handling Building Auxiliary Equipment | Scoping Notes Drawing |
| Fuel Handling Building HVAC System | 8-G-0533-LR |
| Turbine Building Health Physics Room Auxiliary Equipment | Scoping Notes Drawing |
| Polar Crane Auxiliary Equipment | Scoping Notes Drawing |
| Elevator System | Scoping Notes Drawing |
| Technical Support Center HVAC System | Scoping Notes Drawing |
| 230KV Switchyard System | Scoping Notes Drawing |
| Gross Failed Fuel Detection System | 5-G-0052-LR |
| Monorail Hoists Equipment | Scoping Notes Drawing |
| Post-Accident Hydrogen System | 5-G-0105-LR |

| Steam and Power Conversion Systems | |
|---|-----------------------|
| Steam Generator Blowdown System | 5-G-0051-LR |
| Steam Generator Chemical Addition | 5-G-0053-LR |
| Main Steam Supply System | 5-G-0042-LR |
| Steam Dump System | 5-G-0042-LR |
| Auxiliary Boiler/Steam System | 5-G-0189-LR |
| Feedwater System | 5-G-0044-LR |
| | 5-G-0044 S02-LR |
| | Scoping Notes Drawing |
| Feedwater Heater Drains & Vents System | Scoping Notes Drawing |
| Auxiliary Feedwater System | 5-G-0042-LR |
| | 5-G-0044-LR |
| | 5-G-0045-LR |
| | 5-S-0545 S01-LR |
| Auxiliary Steam Condensate System | 5-G-0242-LR |
| Condensate System | 5-G-0045-LR |
| Condensate Storage System | 5-G-0045-LR |
| Secondary Sampling System | 5-G-0051-LR |
| Steam Generator Wet Lay Up System | 5-G-0089-LR |
| Turbine System | 5-G-0042-LR |
| | 5-S-0553 S03-LR |
| Digital Electric-Hydraulic System | 5-S-0553 S02-LR |
| Turbine-Generator Lube Oil System | Scoping Notes Drawing |