UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931

November 14, 2000

Duke Energy Corporation
ATTN: Mr. G. R. Peterson
Site Vice President
Catawba Nuclear Station
4800 Concord Road
York, SC 29745

SUBJECT: SAFETY SYSTEM DESIGN AND PERFORMANCE CAPABILITY INSPECTION
NRC INSPECTION REPORT NO. 50-413/01-02 AND 50-414/01-02

Dear Mr. Peterson:

The purpose of this letter is to announce a safety system design and performance capability inspection (SSDPCI) at your Catawba facility, which is scheduled for January 8 - 12, 2001, and January 22 - 26, 2001. The inspection will be conducted using Inspection Procedure (IP) 71111.21, "Safety System Design and Performance Capability," and will be performed under the new reactor regulatory oversight program. A team of six inspectors (one in training) will perform the inspection. The designated team leader, Mr. Robert Carroll, will make arrangements with your staff to discuss the inspection plan in more detail.

The inspection objective will be to evaluate the capability of the emergency diesel generators (including their support systems), the standby shutdown facility, auxiliary feedwater system, secondary power operated relief valves, and other related systems to perform the functions required to mitigate a loss of offsite power/station blackout. It should be noted that a similarly focused 10 CFR 50.59 inspection (per IP 71111.02, Evaluation of Changes, Tests, or Experiments) will be conducted concurrently with the first week of the SSDPCI. In support of the overall inspection effort, a listing of requested information has been provided as an enclosure to this letter. The listing designates which information will be needed by December 11, 2000, and which information should be made available the first week of the SSDPCI. Mr. Carroll will visit the Catawba Nuclear Station during the week of December 11, 2000, to initially review and collect copies of the requested materials.

Thank you for your cooperation in this matter. If you have any questions regarding this inspection, please contact Mr. Robert Carroll at (404) 562-4511.

Sincerely,

/RA/

Charles R. Ogle, Chief
Engineering Branch
Division of Reactor Safety

Enclosure: Listing of Requested Information

Docket Nos.: 50-413, 50-414
License Nos.: NPF-35, NPF-52

cc w/encl: See page 2

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OFFICE							
SIGNATURE							
NAME	Rcarroll	RHaag					
DATE	11/13/2000	11/14/2000					
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

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LISTING OF REQUESTED INFORMATION

SAFETY SYSTEM DESIGN AND
PERFORMANCE CAPABILITY INSPECTION
(Loss of Offsite Power/Station Blackout Events)

It is requested that copies of those items marked with an **"asterisk (*)"** be available the week of December 11, 2000, if at all possible. The remaining unmarked items are requested to be made available onsite for the first week of the inspection (January 8, 2001):

- ***Site specific procedures related to standard operation, abnormal operation, and emergency operation of the emergency diesel generators (EDGs), standby shutdown facility (SSF), and other related systems during a loss of offsite power (LOOP) and/or a station blackout (SBO). Other related systems include, but may not be limited to: diesel (EDG and SSF) support systems (e.g., starting air, jacket water, battery/DC systems, etc..); station transformers and qualified circuits to the onsite 4160 volt AC essential auxiliary power system; batteries/DC systems (station vital and SSF); auxiliary feedwater (AFW) system and turbine driven auxiliary feedwater (TDAFW) pump (including water source); required ventilation systems (e.g., EDG, SSF, AFW pump room, TDAFW pump pit etc..); standby makeup pumps; and secondary side power operated relief valves (PORVs).**

- ***Design criteria (i.e., design basis documents) for the aforementioned systems and equipment.**

- ***Technical Specification requirements, as well as a list of associated surveillance test/calibration procedures, for the EDGs, SSF, applicable AC and DC electrical power systems, AFW and TDAFW pump, secondary PORVs and related systems.**

- ***Copies of applicable sections of the Updated Final Safety Analysis (UFSAR) for the EDGs, SSF, applicable AC and DC electrical power systems, AFW and TDAFW pump, secondary PORVs, and other related systems, as well as copies of planned changes to the applicable sections of the UFSAR that have yet to be docketed.**

- ***EDGs, SSF, AFW and TDAFW pump, applicable AC and DC electrical power systems, secondary PORVs and other related systems drawings (e.g., piping and instrumentation drawings, one-line diagrams, electrical schematics, wiring and logic diagrams depicting logic of voltage relays and load sequencing for LOOP, etc..).**

- ***A list of engineering calculations (Electrical, Instrumentation and Controls, and Mechanical/Nuclear) applicable to the EDGs, SSF, applicable AC and DC electrical power systems, AFW and TDAFW pump, secondary PORVs and other related systems.**

- ***List of calculations related to meeting 10 CFR 50.63 SBO rule.**

- ***Strategy for handling LOOP/SBO events (including those induced by tornados).**

- ***A list of <u>all permanent plant modifications</u>, as well as detailed descriptions of these modifications, implemented since 1993. (This information will be utilized in the concurrent 50.59 inspection and will include plant modifications to the EDGs, SSF, AFW and TDAFW pump, applicable AC and DC electrical power systems, secondary PORVs, and other related systems.)**

- ***A list of 50.59 reviews since 1993, which differentiates between screening and full evaluations. (This information will be utilized in the concurrent 50.59 inspection and should include plant modifications, procedure changes, equivalency evaluations, commercial grade dedications, etc.., related to the EDGs, SSF, AFW and TDAFW pump, applicable AC and DC electrical power systems, secondary PORVs, and other related systems.)**

- ***List of current open temporary modifications and operator work arounds involving operation of the EDGs, SSF, AFW and TDAFW pump, applicable AC and DC electrical power systems, secondary PORVs, and the other related systems.**

- ***List of deficiency or Problem Investigation Process reports (PIPs) initiated since 1993 affecting the EDGs, SSF, AFW and TDAFW pump, applicable AC and DC electrical power systems, secondary PORVs, and other related systems.**

- ***System Health Reports and Performance Trends for the EDGs, SSF, AFW and TDAFW pump, applicable AC and DC electrical power systems, secondary PORVs, and other related systems in the past 12 months.**

- ***Maintenance Rule Performance criteria for the EDGs, SSF, AFW and TDAFW pump, associated AC and DC electrical power systems, secondary PORVs and other related systems (including records for EDG station blackout target reliability).**

- ***Summary of corrective maintenance activities, including maintenance rule performance history, performed on the EDGs, SBO EDG, AFW and TDAFW pump, associated AC and DC electrical power systems, secondary PORVs, and other related systems in the past 12 months.**

- ***An index of drawings for the EDGs, SSF, AFW and TDAFW pump, secondary PORVs and other related systems.**

- ***Self-assessment performed on EDGs, SSF, AFW and TDAFW pump, associated AC and DC electrical power systems, secondary PORVs, and other related systems in the last 24 months.**

- ***System description and operator training modules for the EDGs, SSF, AFW and TDAFW pump, associated AC and DC electrical power systems, secondary PORVs and other related systems.**

- ***PRA Fault Tree Data for the EDGs, SSF, AFW and TDAFW pump, associated AC and DC electrical power systems, secondary PORVs, and other related systems, as it relates to LOOP/SBO. (This should include the affects and assumptions made with respect to tornados.)**

- ***PRA Event Trees, Fault Trees, and Cut Sets for tornado sequences <u>if different than Revision 1.</u>**

- ***Grid Stability Study.**

- <u>Standby Makeup Pump (SMP) and TDAFW Pump:</u>

  Vender manuals

  ***NPSH calculations (NPSH for TDAFW in SSF mode)**

  Piping models for SMP to reactor coolant pump seals and TDAFW to steam generators during SSF event

  Documentation of verification testing of flow models

  ***Vender pump curves**

  Inservice Testing tables or pump curves

  Test documentation that demonstrates flow balancing

  ***List of PIPs or corrective maintenance work orders related to performance deficiencies for SMPs or TDAFW pump for last 6 years.**

  ***Name plate data on pumps and drivers.**

- <u>EDG Fuel oil:</u>

  ***Sizing calculation for fuel oil storage tank and fuel consumption rate**

  ***Fuel oil storage tank drawing (showing tap elevation for transfer pump)**

  Fuel oil transfer pump vendor manual

- <u>EDG:</u>

  EDG jacket water heat exchangers (HXs) and lube oil cooler specification sheets

  Any documentation of testing of HXs, ability to identify degraded performance, etc..

  Documentation of HX plugged tubes (if any)

Trending data of EDG performance

***List of any component design changes or replacements made via the procurement process in last 6 years (commercial grade dedications, item equivalency evals., etc)**

***List of any modifications made via the station design change process (NSMs, OEs, etc..)**

EDG nameplate data for engine and generator

List of Operating Experience Program evaluations of industry, vender, or NRC generic issues related to the EDGs in past 3 years.

- <u>SSF System Function:</u>

  Calculation(s) which determine decay heat load for SSF event and TDAFW pump capacity to supply cooling water

  Calculations or analysis which verify adequacy and availability of water source for TDAFW pump during SSF event.

  Calculation(s) which verify the capacity of the PORVs for SSF event

  Calculations or analysis which determine the capacity required of the SMPs in an SSF event

- <u>SSF Diesel and Fuel Oil:</u>

  ***Data similar to that requested for EDG and EDG fuel oil**

- <u>LOOP/SBO Valves:</u>

  ***List of valves required to change position for a LOOP/SBO event. Provide copies of the related surveillance test procedures and results for the last 3 years.**

  ***Copies of the last two GL 89-10 periodic motor operated valve trend reports prepared for each unit.**

- <u>Secondary PORVs:</u>

  Equipment manual