



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

May 15, 2001

Mr. Dale E. Young, Vice President
Crystal River Nuclear Plant (NA1B)
ATTN: Supervisor, Licensing &
Regulatory Programs
15760 West Power Line Street
Crystal River, FL 34428-6708

**SUBJECT: SAFETY SYSTEMS DESIGN AND PERFORMANCE CAPABILITY INSPECTION
NRC INSPECTION REPORT NOS. 50-302/2001-06**

Dear Mr. Young:

The purpose of this letter is to notify you that the U.S. Nuclear Regulatory Commission (NRC) Region II staff will conduct a safety system design and performance capability inspection at your Crystal River 3 facility during July and August 2001. A team of five inspectors will perform the inspection. There will be one additional inspector-in-training that will accompany the team. The inspection team will be led by Mr. M. Scott, a senior reactor inspector from the NRC Region II Office. The inspection will be conducted in accordance with baseline Inspection Procedure 71111.21, Safety System Design and Performance Capability.

The inspection objective will be to verify the capability of the plant equipment to perform the functions required to mitigate a loss of offsite power (LOOP)/station blackout (SBO) event. The plant equipment initially selected for inspection is identified in the enclosed request for information.

During a telephone conversation on May 9, 2001, Mr. M. Scott of my staff, and Mr. Dennis Herrin of your staff, confirmed arrangements for an information gathering site visit and the two-week onsite inspection. The schedule is as follows:

- Information gathering visit: Week of July 1
- Inspection preparation week: Week of July 9
- Onsite inspection: July 16 - 20 and July 30 - August 3, 2001

The purpose of the information gathering visit is to obtain information and documentation outlined in the enclosure needed to support the inspection. The information will then be reviewed during the inspection preparation week to focus the team on the risk areas and equipment of interest. Please contact Mr. Scott prior to preparing copies of the materials listed in the Enclosure. The inspectors will try to minimize administrative burden by specifically identifying only those documents required for inspection preparation.

During the information gathering visit, the team leader will also discuss the following inspection support administrative details: office space; specific documents requested to be made available to the team in their office space; arrangements for reactor site access; and the availability of knowledgeable plant engineering and licensing organization personnel to serve as points of contact during the inspection.

Thank you for your cooperation in this matter. If you have any questions regarding the information requested or the inspection, please contact me at (404) 562-4667, or Mr. Scott at (404) 562-4678.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Sincerely,

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Mark Lesser, Chief
Maintenance Branch
Division of Reactor Safety

Docket Nos. 50-302
License Nos. DPR-72

Enclosure: Information Request for the Safety System Design and
Performance Capability Inspection Loss of Offsite Power Events

cc w/encl:
Daniel L. Roderick
Plant General Manager
Crystal River Nuclear Plant (NA2C)
Electronic Mail Distribution

Sherry L. Bernhoft
Manager Regulatory Affairs
Crystal River Nuclear Plant (NA2H)
Electronic Mail Distribution

Richard L. Warden
Manager Nuclear Assessment
Crystal River Nuclear Plant (NA2C)
Electronic Mail Distribution

R. Alexander Glenn
Associate General Counsel (MAC - BT15A)
Florida Power Corporation
Electronic Mail Distribution

(cc w/encl cont'd - See page 3)

(cc w/encl cont'd)
 Attorney General
 Department of Legal Affairs
 The Capitol
 Tallahassee, FL 32304

William A. Passetti
 Bureau of Radiation Control
 Department of Health
 Electronic Mail Distribution

Joe Myers, Director
 Division of Emergency Preparedness
 Department of Community Affairs
 Electronic Mail Distribution

Chairman
 Board of County Commissioners
 Citrus County
 110 N. Apopka Avenue
 Inverness, FL 36250

Michael A. Schoppman
 Framatome Technologies
 Electronic Mail Distribution

Distribution w/encl:
 J. Goshen, NRR

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 PUBLIC

PUBLIC DOCUMENT (circle one): YES NO

OFFICE	RII:DRS	RII:DRS	RII:DRS	RII:DRP			
SIGNATURE	MAS1	MSL1	WGR1	LXW1			
NAME	SCOTT	LESSER	ROGERS	WERT			
DATE	5/14/2001	5/16/2001	5/15/2001	5/15/2001	5/ /2001	5/ /2001	5/ /2001
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

**INFORMATION REQUEST FOR THE SAFETY SYSTEM DESIGN AND
PERFORMANCE CAPABILITY INSPECTION:**

LOSS OF OFFSITE POWER (LOOP)/STATION BLACKOUT (SBO) EVENTS

Note: Electronic media is preferred if readily available (i.e., on computer disk).

The main equipment that will be initially considered for evaluation, i.e., those that will mitigate LOOP and SBO scenarios, would be the emergency diesel generators (EDG), vital switchgear (480 and 4160 Volt breakers and controls circuits), transformers, pressurizer safety reliefs, pressurizer power operated reliefs valves (PORVs), atmospheric reliefs (ADVs), turbine bypass valves, EDG and other critical ventilation equipment, diesel starting air, jacket water support systems, main steam atmospheric relief valves, main steam isolation valves, station vital and dedicated batteries, emergency feedwater (EF) pumps, non-safety feedwater pump(s) [and the water sources], valves identified as being operated or checked shut by emergency procedure, associated instrumentation and controls, high pressure injection pumps, and support equipment.

The following material or ready access to material is requested.

- Site specific administrative procedures related to standard operation, abnormal operation, and emergency operation of the equipment identified above and other related systems that would be possibly used during a loss of offsite power and/or a station blackout. **Other** related systems include, but may not be limited to items considered as support systems. Additionally, it would be desirable to have on hand procedures that test, overhaul and maintain: PORV; station vital and dedicated diesel batteries; diesel ventilation; emergency feedwater system pumps; non-safety related feedwater pump (s); diesel air start system; and diesel fuel system.
- Design criteria (i.e., design basis documents) for the EDGs, electrical power distribution, in addition to support systems and interfaces for the EDGs, PORVs, ADVs, EFW Pumps, non-safety feedwater pump (s), the 480V and 4160V electrical systems, and station batteries.
- Technical Specification requirements and a list of associated surveillance test/calibration procedures for the equipment listed above.
- Copies of applicable sections of the UFSAR for the normal and emergency power, RCS feed and bleed, EF system and other related systems and copies of applicable sections of changes to the UFSAR for which have yet to be docketed.
- For equipment identified above, provide piping and instrumentation drawings, one-line diagrams; electrical schematics, and wiring and logic diagrams (i.e., logic of voltage relays and load sequencing for LOOP).
- A list of engineering calculations (Electrical, Instrumentation and Controls and Mechanical/Nuclear) applicable to the EDGs, PORVs, risk related switchgear, and other related systems.
- List of calculations related to meeting 10 CFR 50.63 Station Blackout rule.

Enclosure

- Strategy for handling LOOP/SBO events. Mr. Herrin of your staff has provided the applicable AP for LOOP and the EOP for SBO to the inspectors. List and have available the step deviation documents to these procedures. List any job performance methodologies (JPMs) for these procedures. If other emergent procedures apply, please have those available.
- A list of plant modifications to the above indicated equipment and other related systems implemented since 1998.
- List of current open temporary modifications and operator workaround involving operation of the above indicated equipment and the other related systems.
- List of Condition Reports (CRs) initiated since 1998 affecting the EDGs, other related mitigating and support equipment and systems.
- For the above list of indicated equipment, list the components or systems that have been classified as maintenance rule a(1) status since January 1, 1998. Provide a summary of corrective maintenance activities, including the maintenance rule event log, performed on the above indicated equipment and other related systems in the past 12 months.
- An index of drawings for the above indicated equipment and other related systems.
- Self-assessment(s) performed on above indicated equipment and other related systems in the last 24 months.
- System description and operator training modules for the above indicated equipment and other related systems.
- List of Operating Experience Program evaluations of industry, vendor, or NRC generic issues related to the EDGs, switchgear, control equipment, and instrumentation for the past 3 years.
- *List of valves required to change position or that may be operated (manually, check shut, and automatically) for a LOOP/SBO event.
- *List which valves in the above list that are air operated and, without air, fail to the incorrect position for the stated scenarios.
- *List of switchyard breakers, relays, and switchgear that change state(s) during a LOOP and then an SBO.
- *List of switchyard and electrical equipment that support primary mitigation equipment (e.g., switchyard batteries, relaying, etc.) [Equipment whose loss could initiate a LOOP.]
- *List of instruments expected to be used (read or referenced) during a LOOP/SBO scenario.

- *If identified previously in this list (list item one), provide design basis information available and job performance methodologies [if available] for **other** equipment that can be used to mitigate the consequences of the selected scenarios.
- If known, list of cumulative failures and type with description of the asterisked items above in the last 2 end-of-refueling LOOP/SBO tests, last two fuel cycles, or end-of-refueling outage surveillance. Provide a list of associated tests that would have identified the failures.
- Compilation of surveillance tests data for the diesel driven EF pump since its installation, original vendor pump curves, calculations on expected pump operating pressures and flow rates during a LOOP/SBO scenario as a function of time. List expected explicit or implicit operator action (s) during the scenario with the EF system.
- List of instrument setpoint changes affecting EDGs and related systems (such as the associated logic, breaker relays, etc.) initiated since 1998. Include the number and title, date, brief description, and corresponding calculation number.
- In the 1997 version of the SBO EOP, there were instructions to open cabinet doors to certain equipment such the EFIC cabinets. In the current version, the instructions are not present. Is there another adjunct procedure that performs those steps? Identify/provide the procedure.
- Grid Stability Study.
- Information describing the type and material used for the seals and O-rings for each reactor coolant pump (RCP). If available, provide expected leakage evaluations associated with these seals and any associated licensing correspondence.
- PRA calculation for RCP seal loss of coolant accident (LOCA) and offsite power recovery.
- PRA Fault Tree Data for above indicated equipment.
- PRA/Risk Achievement Worth (RAW) listing that would encompass the above indicated equipment. Provide any documented reviews that your staff may have performed against the RAW list for the above indicated equipment to identify repeat failures or identify critical component for further edification.
- PRA Event Tree for LOOP initiating event.
- In about 1992, there was an event where salt water affected switchyard components. Provide a list of corrective action program documentation that resulted from that event.
- It is our understanding that your plant has no 10 CFR 50.2 alternate A/C source and is a four hour coping plant. List any changes in coping capability evaluation or calculations since the 1992.
- List any degraded grid study(s) done on your facility in the last four years.