

To: Dyer, NRR
Ref. G. 20060793

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION

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J.E. Dyer, Director

In the Matter of) Docket No. 50-400
)
CAROLINA POWER & LIGHT COMPANY) License No. NPF-63
)
)
Shearon Harris Nuclear Power Plant, Unit 1)

PETITIONERS' RESPONSE TO
PROPOSED DIRECTOR'S DECISION UNDER 10 C.F.R. 2.206

NOW COME the Petitioners in this matter, the NC Waste Awareness and Reduction Network, the Nuclear Information and Resource Services, the Union of Concerned Scientists, NC Fair Share, and Students United for a Responsible Global Environment, with a response to the Proposed Director's Decision under 10 C.F.R. 2.206 issued on or about April 2, 2007.

This response adopts the 2.206 Petition and attachments filed in this matter, testimony at a public meeting at the NRC, and supplements to the petition. (Referenced by ADAMS numbers in the Proposed Director's Decision).

General Response. The Petitioners SUPPORT the NRC staff in the determination that the Shearon Harris Nuclear Power Plant ("SHNPP") has been out of compliance with the NRC fire protection regulations at 10 C.F.R. 50, Appendix R, Section II G.2., and its operating license, as alleged in the 2.206 Petition. The timeline of events in the Proposed Director's Decision ratifies the factual allegations in the 2.206 Petition, and it clearly shows that despite numerous notices by the NRC staff about the failures of fire barriers and need to comply with the Section II G.2. standards, Progress Energy (formerly doing business as Carolina Power & Light Company) has not done so. Instead Progress Energy has made repeated commitments to the NRC that it would come into compliance with the fire protection standard but has not fulfilled those commitments. It has substituted compensatory measures, such as the unassessed and unpermitted operator manual actions, that would do little to protect plant workers and the public when the safe shutdown of the plant is required in emergency situations. Instead of coming into compliance immediately, the current plan apparently is to study the problem for another year or two, seek a license amendment and bring the plant into compliance by 2015.

The Petitioners therefore DISAGREE with the conclusion in the Proposed Director's Decision that denies the Petition to "revoke the SHNPP operating license or impose maximum fines for each violation for each day the plant has been in violation of the fire protection regulations."

The emergency enforcement action is warranted based on the current public health and safety hazard posed by the continued operation of the SHNPP without reasonable assurance against cable and conduit fires and consequential impairment of the ability of the plant to safely operate, and in particular, to safely shut down in emergency situations. The statement that the "licensee is actively identifying and completing corrective actions" completely disregards the time period that the licensee already has had to identify the problems with the fire barriers and to correct the numerous problems.

The NRC clearly has authority for action "if the violation is willful" (see Director's Proposed Decision, fn. 1) and in this matter, Progress Energy has repeatedly and wilfully violated the regulations, and at the same time, has made false and misleading statements to the NRC that it had or would correct the problems. As such, the NRC staff has been derelict in its duty to require the licensee to operate in a safe manner. The 2.206 Petition should therefore be GRANTED.

Specific responses.

1. Fire barriers. The Proposed Director's Decision at page 4 erroneously states that "the NRC's concern with the performance of fire barriers at nuclear power plants (NPPs) began with the failure of Thermo-Lag to pass performance tests conducted by an NPP licensee in October 1989." However, the NRC's concern with the performance of fire barriers predated October 1989 by over a decade. On March 24, 1975, the NRC staff sent Bulletin 75-04, "Cable Fire at Browns Ferry Nuclear Power Station," to its licensees and required them to take several specific actions, including

1. Review your overall procedures and system for controlling construction activities that interface with reactor operating activities, with particular attention to the installation and testing of seals for electrical cables between compartments of the reactor building, e.g., control room to cable spreading room.
2. Review the design of floor and wall penetration seals, with attention to the flammability of materials.

This regulatory concern with the performance of fire barriers predates both the date in the Proposed Director's Decision, October 1989, and the date that the NRC issued the operating license for the SHNPP, January 12, 1987.

The Proposed Director's Decision on page 4 does conclude that the NRC was concerned about fire barrier performance in at least as early as October 1989 and described the agency's response:

The NRC addressed this concern by conducting additional fire testing of Thermo-Lag, and issuing a series of generic communications to NPP licensees, including SHNPP. The generic communications included Information Notice (IN) 91-47, "Failure of Thermo-Lag Fire Barrier Material to Pass Fire Endurance Test," August 6, 1991, as the first in a series of INs issued between 1991 and 1995 on performance test failures and installation deficiencies related to Thermo-Lag fire barrier systems...

The Proposed Director's Decision at page 5 states that the licensee claimed to have resolved the Thermo-Lag problems in August 1997, more than six years later:

Based on NRC's generic communications, licensees reviewed their fire protection safe shutdown plans to determine whether corrective actions were needed. By letter dated August 29, 1997, the SHNPP licensee notified the NRC that it had completed Thermo-Lag resolution activities (corrective actions) for SHNPP.

Had the owner truly fixed the problem, the SHNPP would be in compliance with fire protection regulations today. But, as the Proposed Director's Decision states at page 5, the licensee's claim in August 1997 was determined to be fraudulent in that:

Subsequently, NRC inspection report 50-400/99-13 (ML003685341), dated February 3, 2000, identified issues at SHNPP associated with engineering evaluations for some of the Thermo-Lag fire barriers. ... By letter dated April 16, 2002, (ML021060517), the NRC issued a violation to SHNPP for the Thermo-Lag issues.

The licensee then made additional commitments to correct the problems and undertook steps to rectify its safety and regulatory shortfalls. The Proposed Director's Decision at page 5 concludes that "in response to the Thermo-Lag fire barrier issues, the licensee implemented further corrective actions at SHNPP. The licensee completed major modifications for many of the corrective actions."

Had the licensee's fixes to its previously ineffective fixes been successful, the SHNPP would be in compliance with fire protection regulations today. However, the record shows that the corrective actions were not successful and the SHNPP is not in compliance today. Instead, the licensee substituted compensatory measures for compliance and has continued to make promises that it would make progress toward compliance.

At no place in the record, the regulatory docket or in the Proposed Director's Decision has the NRC given a date certain by which the SHNPP must comply with the fire regulations. Although the Proposed Director's Decision at page 9 states that the "licensee has initiated corrective actions," many of those corrective actions were initiated years ago but have not been completed. Again on page 9, the Proposed Director's Decision states that the "corrective actions should be completed for missing or degraded fire barriers as required by regulations."

Similarly, the Proposed Director's Decision, at page 18, fn. 3, states "SHNPP has completed

plant modifications to correct some of its fire protection noncompliances.” The word “some” is troublesome because at no place in the record is there any quantification of these modifications; “some” could mean as little as replacing ten feet of fire barriers.

The Proposed Director’s Decision at page 13 asserts that “the NRC staff agrees that compensatory measures are not a substitute for demonstrating permanent compliance with the regulations,” but it is clear in the record that the NRC has not taken any tangible steps whatsoever to back up this assertion to end the open-ended substitution of compensatory measures for regulatory compliance. The Proposed Director’s Decision at page 8 states that it has been at least four years since the NRC staff began to address the question of acceptable operator manual actions (“OMAs”) “that would allow the use of feasible and reliable OMAs in conjunction with fire detection.” To date, the OMAs at the SHNPP still have not been presented by the licensee, or analyzed and approved by the NRC staff.

This indefinite timetable for corrective actions is further presented on page 10 of the Proposed Director’s Decision in that “the NRC staff is also currently working with external stakeholders to address the potential for fire induced circuit failures to cause multiple spurious actuations.”

Apparently, the NRC’s message to Progress Energy is that all of this means at some undesignated time, years in the future. As evidenced by the timeline beginning in 1975, this indefinite timetable has allowed Progress Energy to continue to put off corrective actions again and again.

2. NRC inspection and oversight. At several places in the Proposed Director's Decision, the NRC staff states that its reactor oversight process monitors fire protection issues. On page 8, for example, the NRC stated that “the NRC verifies fire barrier compliance and the adequacy of compensatory measures through its reactor oversight process.” During the November 13, 2006, public meeting on the petition, the Petitioners pursued this point. Our concern was and remains that NRC inspectors cannot verify anything for a facility that is neither in compliance with 10 C.F.R. 50.48, Appendix R, nor the NPFA 805 standards. NRC staff member Suni Weerrakkody responded to the petitioners by stating that “in other words, there is no reason to go and reinspect things like operator manual actions where we believe that the licensee is not in compliance.” It is apparent that the NRC's instructions to its inspectors are to not examine areas or programs known to be in noncompliance, such as the OMAs.

The Petitioners maintain that absolutely no assurance can be credited for alleged verifications of areas that are deliberately not examined. Simply put, there is and has been no effective NRC oversight of fire protection at the SHNPP.

3. Enforcement discretion. In the 2.206 Petition, the Petitioners challenge the open-ended, informal enforcement discretion that enables the SHNPP to not comply with federal safety regulations year after year. On page 13 of the Proposed Director's Decision, the NRC staff cited, among other things, Inspection Manual Part 9900, as governing its enforcement discretion usage, stating that

The NRC has existing policies (e.g., enforcement discretion) and guidance (e.g., Inspection Manual Part 9900) that address the time frame for compensatory measures as an interim action until final corrective action is completed to resolve the condition or noncompliance.

However, Inspection Manual Part 9900, "Operations - Notices of Enforcement Discretion," contradicts what the staff is doing, and not doing, at Shearon Harris, stating that

The NOED process is designed to address unanticipated temporary noncompliances with license conditions and TS [technical specifications] only. NOEDs are not appropriate to allow planned entries into TS LCOs [limiting conditions for operation] to perform maintenance or other activities. Further, NOEDs are not appropriate for nonconformances with regulations, Updated Final Safety Analysis Reports (UFSARs), or codes. Exemptions from regulations, non-compliance with UFSARs, and reliefs from codes must be processed in accordance with the provisions of Title 10, Code of Federal Regulations (10 C.F.R.) Parts 50.12, 50.59, or 50.55a, respectively, and are not addressed by the NOED policy.

In the present matter, the NRC staff did not apply the NOED policy from Inspection Manual Part 9900, but it was entirely proper for it not to have invoked this policy. But, the NRC staff also did not invoke the applicable exemption process in other NRC regulations, such as 10 C.F.R. Parts 50.12, 50.59, or 50.55a, and allowing noncompliance exemptions without going through this process is improper. As a result, the NRC staff has allowed the noncompliance of the fire protection regulations to linger indefinitely through its misemployed enforcement discretion.

The SHNPP is not in compliance with the existing fire protection regulations (II.G.2) nor is yet in compliance with the "new" fire protection regulation alternative, the NFPA 805. Progress Energy has not placed in the regulatory docket any evaluation identifying the gaps, or deltas, between actual conditions at the SHNPP and either the existing or the "new" regulations. In the interim, the licensee is using compensatory measures consisting of fire watches and OMAs to substitute for compliance. The lack of analysis means that Progress Energy cannot quantify and NRC cannot verify that the various noncompliances, individually and collectively, represent a low hazard.

In addition, because the noncompliances are not identified, it is impossible for Progress Energy to avoid taking steps that make conditions far less safe. For example, consider an existing, but as yet unidentified, noncompliance involving the power cable for emergency pump X. Because this noncompliance is not formally identified, operators might take emergency pump Y, the fully redundant backup to emergency pump X, out of service for maintenance. Had the noncompliance on emergency pump X been known to them, the operators might have deferred the work on emergency pump Y until after the pump X noncompliance was resolved. If the work could not be so deferred, the operators might have removed pump Y from service only after first taking steps to further reduce the challenge to pump X (such as prohibiting ignition

sources and transient combustible in the vicinity of the pump X cable non-compliance area).¹

Because compliance with the fire regulations is such an important part of safety at a nuclear power plant, care should be taken to not substitute long-term enforcement discretion for real world modifications and corrective actions. Rather than taking steps to minimize fires by enforcing the regulations, the NRC is basing its findings of safety at the SHNPP on informal, unspecified and unquantified noncompliances.

4. Security and fire protection. The Proposed Director's Decision at page 15 states that "the NRC has indicated in public statements that subsequent classified studies have confirmed that commercial nuclear power plants are robust." This reflects the formal statement made by NRC Chairman Dale Klein on January 29, 2007, that

Nuclear power plants are inherently robust structures that our studies show provide adequate protection in a hypothetical attack by an airplane. The NRC has also taken actions that require nuclear power plant operators to be able to manage large fires or explosions - no matter what caused them.

¹ This "ignorance is bliss" scenario is far from conjecture as evidenced at the Davis-Besse NPP in 2001. In that case, the licensee sought and obtained permission from the NRC to continue operating the reactor beyond a December 31 deadline for inspection of the control rod drive mechanism ("CRDM") nozzles. The licensee and the NRC both realized there was an elevated risk of CRDM nozzle leakage leading to a loss of coolant accident until the inspections were conducted, based on CRDM nozzle cracks and leaks at similar reactors. The licensee and the NRC justified this elevated risk at that time on the perception that the CRDM nozzle-initiated loss of coolant accident, should it occur, was within the design capability of the emergency core cooling systems. However, the NRC had been aware since September 1996 of an unresolved safety issue potentially impairing the reliability of that relied-upon emergency core cooling system capability and had initiated Generic Safety Issue 191 (GSI-191) on containment sump concerns. The NRC had labeled this problem a high priority issue by fall of 2001. Yet the regulatory decision to allow the Davis-Besse NPP to continue operating with an elevated risk from a loss of coolant accident happening did not account for the concurrent elevated risk of a key response safety function to a loss of coolant accident. When the deferred inspections were finally performed in 2002, very significant damage was found. In addition, the NRC did not allow Davis-Besse NPP to restart until the containment sump problem was corrected.

The assertions in the Proposed Director's Decision and by Chairman Klein are contrary to the findings in a long series of studies on security issues that have been undertaken by the NRC since 1982 that show that the plants cannot withstand an aerial attack.²

The fire protection regulations, even if met in full and non-exempted, are intended to deal with a single fire in a single room or area. No other equipment damage is presumed to occur, other than the components within that room or area damaged by the single fire itself. The fire protection regulations are not designed for and are not adequate to deal with fires in multiple rooms and areas that can easily result from an aircraft crash.

The noncompliances of the fire protection regulations at the SHNPP would be compounded by acts of sabotage or terrorism. OMAs have not been proven to adequately address one fire, let alone multiple fires in the face of a real threat.

Conclusion. In light of the above, the Petitioners request that the Director accept the 2.206 Petition in its entirety and cause the SHNPP to come into compliance with the fire protection regulations. The Petitioners further request that they be informed of any decision that is made in this matter.

This is the 1st day of May, 2007.

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² Union of Concerned Scientists Issue Brief: THE NRC'S REVISED SECURITY REGULATIONS, February 1, 2007; www.ucsusa.org/assets/documents/clean_energy/20070201-ucs-aircraft-fire-hazards.pdf.