Authorized by Law

This exemption would allow the use of Optimized ZIRLO™ fuel rod cladding material at SURRY. As stated above, 10 CFR 50.12 allows the NRC to grant exemptions from the requirements of 10 CFR Part 50. The NRC staff has determined that granting of the licensee's proposed exemption will not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Therefore, the exemption is authorized by law.

No Undue Risk to Public Health and Safety

The underlying purpose of 10 CFR 50.46 is to establish acceptance criteria for adequate ECCS performance. By letter dated June 10, 2005, the NRC staff issued a safety evaluation (SE) [2] approving Addendum 1 to Westinghouse Topical Report WCAP–12610–P–A and CENPD–404–P–A, "Optimized ZIRLO™ (these topical reports are non-publicly available because they contain proprietary information)," wherein the NRC staff approved the use of Optimized ZIRLO™ as a fuel cladding material. The NRC staff approved the use of Optimized ZIRLO™ as a fuel cladding material based on: (1) Similarities with standard ZIRLO™, (2) demonstrated material performance, and (3) a commitment to provide irradiated data and validate fuel performance models ahead of burnups achieved in batch application. The NRC staff's safety evaluation for Optimized ZIRLO™ includes 10 conditions and limitations for its use. As previously documented in the NRC staff's review of topical reports submitted by Westinghouse Electric Company, LLC (Westinghouse), and subject to compliance with the specific conditions of approval established therein, the NRC staff finds that the applicability of these ECCS acceptance criteria to Optimized ZIRLO™ has been demonstrated by Westinghouse. Ring compression tests performed by Westinghouse on Optimized ZIRLO™ (NRC-reviewed, approved, and documented in Appendix B of WCAP–12610–P–A and CENPD–404–P–A, Addendum 1–A, "Optimized ZIRLO™") demonstrate an acceptable retention of post-quench ductility up to 10 CFR 50.46 limits of 2200 degrees Fahrenheit and 17 percent equivalent clad reacted. Furthermore, the NRC staff has concluded that oxidation measurements provided by the licensee illustrate that oxide thickness (and associated hydrogen pickup) for Optimized ZIRLO™ at any given burnup would be less than both zircaloy-4 and ZIRLO™. Hence, the NRC staff concludes that Optimized ZIRLO™ would be expected to maintain better post-quench ductility than ZIRLO™. This finding is further supported by an ongoing loss-of-coolant accident (LOCA) research program at Argonne National Laboratory, which has identified a strong correlation between cladding hydrogen content (due to in-service corrosion) and post-quench ductility.

The underlying purpose of 10 CFR Part 50, Appendix K, Section I.A.5, "Metal-Water Reaction Rate," is to ensure that cladding oxidation and hydrogen generation are appropriately limited during a LOCA and conservatively accounted for in the ECCS evaluation model. Appendix K states that the rates of energy release, hydrogen concentration, and cladding oxidation from the metal-water reaction shall be calculated using the Baker-Just equation. Since the Baker-Just equation presumes the use of zircaloy clad fuel, strict application of the rule would not permit use of the equation for Optimized ZIRLO™ cladding for determining acceptable fuel performance. However, the NRC staff has found that metal-water reaction tests performed by Westinghouse on Optimized ZIRLO™ demonstrate conservative reaction rates relative to the Baker-Just equation and are bounding for those approved for ZIRLO™ under anticipated operational occurrences and postulated accidents.

Based on the above, no new accident precursors are created by using Optimized ZIRLO™; thus, the probability of postulated accidents is not increased. Also, based on the above, the consequences of postulated accidents are not increased. Therefore, there is no undue risk to public health and safety due to using Optimized ZIRLO™.

Consistent With Common Defense and Security

The proposed exemption would allow the use of Optimized ZIRLO™ fuel rod cladding material at SURRY. This change to the plant configuration has no relation to security issues. Therefore, the common defense and security is not impacted by this exemption.

Special Circumstances

Special circumstances, in accordance with 10 CFR 50.12(a)(2)(ii), are present whenever application of the regulation in the particular circumstances is not necessary to achieve the underlying purpose of the rule. The underlying purpose of 10 CFR 50.46 and Appendix K to 10 CFR Part 50 is to establish acceptance criteria for ECCS performance. The wording of the regulations in 10 CFR 50.46 and Appendix K is not directly applicable to Optimized ZIRLO™, even though the evaluations above show that the intent of the regulation is met. Therefore, since the underlying purposes of 10 CFR 50.46 and Appendix K are achieved through the use of Optimized ZIRLO™ fuel rod cladding material, the special circumstances required by 10 CFR 50.12(a)(2)(ii) for the granting of an exemption from certain requirements of 10 CFR 50.46 and Appendix K exist.

4.0 Conclusion

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12, the exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. Also, special circumstances are present. Therefore, the Commission hereby grants VEPCO an exemption from certain requirements of 10 CFR 50.46 and Appendix K to 10 CFR Part 50, to allow the use of Optimized ZIRLO™ fuel rod cladding material, for SURRY, Unit Nos. 1 and 2.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will not have a significant effect on the quality of the human environment as published in the **Federal Register** on October 5, 2010 (75 FR 61528).

This exemption is effective upon issuance.

Dated at Rockville, Maryland, this 15th day of December 2010.

For the Nuclear Regulatory Commission.

Joseph G. Giitter,

Director, Division of Operating Reactor Licensing, Office of Nuclear Reactor Regulation.

[FR Doc. 2010–32144 Filed 12–21–10; 8:45 am]

BILLING CODE 7590–01–P

[2] ADAMS Accession No. ML051670408.

NUCLEAR REGULATORY COMMISSION

[Docket No. 50–400; NRC–2010–0020]

Carolina Power & Light Company, Shearon Harris Nuclear Power Plant, Unit No. 1; Exemption

1.0 Background

Carolina Power & Light Company (CP&L, the licensee) is the holder of Renewed Facility Operating License No. NPF–63, which authorizes operation of the Shearon Harris Nuclear Power Plant (HNP), Unit 1. The license provides, among other things, that the facility is

subject to all rules, regulations, and orders of the U.S. Nuclear Regulatory Commission (NRC, the Commission) now or hereafter in effect. The facility consists of one pressurized-water reactor located in New Hill, North Carolina.

2.0 Request/Action

Title 10 of the *Code of Federal Regulations* (10 CFR) Part 73, "Physical protection of plants and materials," Section 73.55, "Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage," published as a final rule in the **Federal Register** on March 27, 2009, effective May 26, 2009, with a full implementation date of March 31, 2010, requires licensees to protect, with high assurance, against radiological sabotage by designing and implementing comprehensive site security plans. The amendments to 10 CFR 73.55 published on March 27, 2009 (74 FR 13926), establish and update generically applicable security requirements similar to those previously imposed by Commission orders issued after the terrorist attacks of September 11, 2001, and implemented by licensees. In addition, the amendments to 10 CFR 73.55 include additional requirements to further enhance site security based upon insights gained from implementation of the post-September 11, 2001, security orders.

By letter dated February 24, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML093620908), the NRC granted an exemption to the licensee for three specific items subject to the new rule in 10 CFR 73.55, allowing the implementation of these items to be extended until December 15, 2010. The licensee has implemented all other physical security requirements established by this rulemaking prior to March 31, 2010, the required implementation date.

By letter dated September 20, 2010, the licensee requested an exemption in accordance with 10 CFR 73.5, "Specific exemptions." Specifically, the licensee requested an extension of the implementation date for one remaining item from December 15, 2010, to November 30, 2011. Portions of the licensee's September 20, 2010, letter contain security-related information and, accordingly, a redacted version of this letter is available for public review in the ADAMS No. ML102650191. The licensee requested this exemption to allow an additional extension from the current implementation date granted in the prior exemption to implement one remaining item of the requirements that involves important physical modifications to the HNP, Unit 1 security system. The licensee identified several issues that have delayed the work to this point and impacted the projected schedule, such as the existence of safety-related conduit and dedicated safe shut down equipment of HNP, Unit 1 within the area where important security modifications are planned. These issues were revealed as the design evolved from the conceptual state to a detailed design state and led to a significant increase in the project's complexity and scope of tasks to be performed. The licensee stated that additional time, beyond that previously approved, is needed due the extensive redesign and review effort that was unforeseen at the conceptual design stage. Granting an exemption would allow the licensee time to complete the necessary security modifications to meet the regulatory requirements.

3.0 Discussion of Part 73 Schedule Exemption From the March 31, 2010, Full Implementation Date

Pursuant 10 CFR 73.55(a)(1), "By March 31, 2010, each nuclear power reactor licensee, licensed under 10 CFR Part 50, shall implement the requirements of this section through its Commission-approved Physical Security Plan, Training and Qualification Plan, Safeguards Contingency Plan, and Cyber Security Plan referred to collectively hereafter as 'security plans.'" In accordance with 10 CFR 73.5, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 73 when the exemptions are authorized by law, and will not endanger life or property or the common defense and security, and are otherwise in the public interest.

NRC approval of this exemption would allow an additional extension from the implementation date granted under a previous exemption from December 15, 2010, to November 30, 2011, for one remaining item of the three requirements of the final rule. As stated above, 10 CFR 73.5 allows the NRC to grant exemptions from the requirements of 10 CFR 73. The NRC staff has determined that granting of the licensee's proposed exemption would not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Therefore, the exemption is authorized by law.

In the draft final rule provided to the Commission, the NRC staff proposed that the requirements of the new regulation be met within 180 days. The Commission directed a change from 180 days to approximately 1 year for licensees to fully implement the new requirements. This change was incorporated into the final rule.

As noted in the final rule, the Commission anticipated that licensees would have to conduct site-specific analyses to determine what changes were necessary to implement the rule's requirements, and that changes could be accomplished through a variety of licensing mechanisms, including exemptions. Since issuance of the final rule, the Commission has rejected a request to generically extend the rule's compliance date for all operating nuclear power plants, but noted that the Commission's regulations provide mechanisms for individual licensees, with good cause, to apply for relief from the compliance date (Reference: June 4, 2009, letter from R.W. Borchardt, NRC, to M.S. Fertel, Nuclear Energy Institute (ADAMS Accession No. ML091410309)). The licensee's request for an exemption is, therefore, consistent with the approach set forth by the Commission and discussed in the June 4, 2009, letter.

Shearon Harris Schedule Exemption Request

The licensee provided detailed information in its letter dated September 20, 2010, describing the reason and justification for an exemption to extend the implementation date for the one remaining requirement. Additionally, the licensee has provided information regarding the revised scope for projects at HNP, Unit 1 and the impacts on the licensee's ability to meet the current implementation date of December 15, 2010. The existence of safety-related conduit and dedicated safe shut down (SSD) equipment of HNP, Unit 1 within the area where important security modifications are planned have delayed the work and impacted the projected schedule. A direct outside access route to the physical construction area has not been available due to design basis tornado and missile considerations for the safety-related conduits and SSD equipment. The licensee is now pursuing a design solution that will allow both temporary and ultimately permanent direct outside access to the area to ensure that the new plans will meet all regulatory requirements. The extensive redesign and review efforts that were unforeseen at the conceptual design stage need additional time beyond that previously approved. Portions of the September 20, 2010, letter contain security-related information regarding the site security plan, details of specific portions of the regulation from which the licensee

seeks exemption, justification for the additional extension request, a description of the required changes to the physical security systems, and a revised timeline with critical path activities that would enable the licensee to achieve full compliance by November 30, 2011. The timeline provides dates indicating when (1) design activities will be completed and approved, (2) the exterior missile protection plate will be modified for entry, and (3) the new and relocated equipment will be installed and tested.

The site-specific information provided within the HNP exemption request is relative to the requirements from which the licensee requested exemption and demonstrates the need for modification to meet the one specific remaining requirement of 10 CFR 73.55. The proposed implementation schedule depicts the critical activity milestones of the security system upgrades; is consistent with the licensee's solution for meeting the requirements; is consistent with the scope of the modifications and the issues and challenges identified; and is consistent with the licensee's requested compliance date.

Notwithstanding the proposed schedule exemption for this one remaining requirement, the licensee will continue to be in compliance with all other applicable physical security requirement as described in 10 CFR 73.55 and reflected in its current NRC-approved physical security program. By November 30, 2011, the HNP physical security system will be in full compliance with all of the regulatory requirements of 10 CFR 73.55, as published on March 27, 2009.

4.0 Conclusion for Part 73 Schedule Exemption Request

The NRC staff has reviewed the licensee's submittals and concludes that the licensee has provided adequate justification for its request for an extension of the previously authorized implementation date from December 15, 2010, with regard to one remaining requirement of 10 CFR 73.55, to November 30, 2011. This conclusion is based on the NRC staff's determination that the licensee has made a good faith effort to meet the requirements in a timely manner, has sufficiently described the reason for the unanticipated delays, and has provided an updated detailed schedule with adequate justification to the additional time requested for the extension.

The long-term benefits that will be realized when the security systems upgrade is complete justify extending the full compliance date with regard to the specific requirements of 10 CFR 73.55 for this particular licensee. The security measures that HNP needs additional time to implement are new requirements imposed by amendments to 10 CFR 73.55, as published on March 27, 2009, and are in addition to those required by the security orders issued in response to the events of September 11, 2001. Accordingly, an exemption from the March 31, 2010, implementation date is authorized by law and will not endanger life or property or the common defense and security, and the Commission hereby grants the requested exemption.

As per the licensee's request and the NRC's regulatory authority to grant an exemption to the March 31, 2010, implementation date for the one item specified in Attachment 1 of the CP&L letter dated September 20, 2010, the licensee is required to implement this one remaining item and be in full compliance with 10 CFR 73.55 by November 30, 2011. In achieving compliance, the licensee is reminded that it is responsible for determining the appropriate licensing mechanism (*i.e.,* 10 CFR 50.54(p) or 10 CFR 50.90) for incorporation of all necessary changes to its security plans.

In accordance with 10 CFR 51.32, "Finding of no significant impact," the Commission has previously determined that the granting of this exemption will not have a significant effect on the quality of the human environment (75 FR 77919 dated December 14, 2010).

This exemption is effective upon issuance.

Dated at Rockville, Maryland, this 14th day of December 2010.

For the Nuclear Regulatory Commission.

Joseph G. Giitter,

Director, Division of Operating Reactor Licensing, Office of Nuclear Reactor Regulation.

[FR Doc. 2010–32145 Filed 12–21–10; 8:45 am]

BILLING CODE 7590–01–P

NUCLEAR REGULATORY COMMISSION

[Docket No. 50–346; NRC–2010–0378]

FirstEnergy Nuclear Operating Company, Davis-Besse Nuclear Power Station; Exemption

1.0 Background

FirstEnergy Nuclear Operating Company (FENOC, the licensee) is the holder of Facility Operating License No. NFP–3, which authorizes operation of the Davis-Besse Nuclear Power Station, Unit 1 (DBNPS). The license provides, among other things, that the facility is subject to all rules, regulations, and orders of the U.S. Nuclear Regulatory Commission (NRC, the Commission) now or hereafter in effect.

The facility consists of one pressurized-water reactor located in Ottawa County, Ohio.

2.0 Request/Action

Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix G requires that fracture toughness requirements for ferritic materials of pressure-retaining components of the reactor coolant pressure boundary of light-water nuclear power reactors provide adequate margins of safety during any condition of normal operation, including anticipated operational occurrences and system hydrostatic tests, to which the pressure boundary may be subjected over its service lifetime; and Section 50.61 provides fracture toughness requirements for protection against pressurized thermal shock (PTS) events. By letter dated April 15, 2009, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML091130228), as supplemented by letters dated December 18, 2009, (ADAMS Accession No. ML093570103) and October 8, 2010 (ADAMS Accession No. ML102861221), FENOC proposed exemptions from the requirements of 10 CFR Part 50, Appendix G and 10 CFR 50.61, to revise certain DBNPS reactor pressure vessel (RPV) initial (unirradiated) properties using Framatome Advanced Nuclear Power Topical Report (TR) BAW–2308, Revisions 1A and 2A, "Initial RT_{NDT} of Linde 80 Weld Materials."

The licensee requested an exemption from Appendix G to 10 CFR Part 50 to replace the required use of the existing Charpy V-notch (C_v) and drop weight-based methodology and allow the use of an alternate methodology to incorporate the use of fracture toughness test data for evaluating the integrity of the DBNPS RPV circumferential beltline welds based on the use of the 1997 and 2002 editions of American Society for Testing and Materials (ASTM) Standard Test Method E 1921, "Standard Test Method for Determination of Reference Temperature T_0, for Ferritic Steels in the Transition Range," and American Society for Mechanical Engineering (ASME), *Boiler and Pressure Vessel Code* (Code), Code Case N–629, "Use of Fracture Toughness Test Data to establish Reference Temperature for Pressure Retaining materials of Section III, Division 1, Class 1." The exemption is required since Appendix G to 10 CFR Part 50, through reference to Appendix G to Section XI of the ASME Code