

respect to significant hazards considerations are being solicited, notwithstanding the general comment procedures contained in 10 CFR 50.91.

The filing of requests for hearing and petitions for leave to intervene, and written comments with regard to the license transfer applications, are discussed below.

By October 31, 2001, any person whose interest may be affected by the Commission's action on the applications may request a hearing and, if not the applicant, may petition for leave to intervene in a hearing proceeding on the Commission's action. Requests for a hearing and petitions for leave to intervene should be filed in accordance with the Commission's rules of practice set forth in Subpart M, "Public Notification, Availability of Documents and Records, Hearing Requests and Procedures for Hearings on License Transfer Applications," of 10 CFR part 2. In particular, such requests and petitions must comply with the requirements set forth in 10 CFR 2.1306, and should address the considerations contained in 10 CFR 2.1308(a). Untimely requests and petitions may be denied, as provided in 10 CFR 2.1308(b), unless good cause for failure to file on time is established. In addition, an untimely request or petition should address the factors that the Commission will also consider, in reviewing untimely requests or petitions, set forth in 10 CFR 2.1308(b)(1)-(2).

Requests for a hearing and petitions for leave to intervene should be served upon David Lewis, Esq., counsel for VEPCO and Dominion Generation at Shaw Pittman, 2300 N Street, NW., Washington, DC 20037, Telephone 202-663-8474, fax 202-663-8007, e-mail [david\\_lewis@shawpittman.com](mailto:david_lewis@shawpittman.com); the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555 (e-mail address for filings regarding license transfer cases only: [OGCLT@NRC.gov](mailto:OGCLT@NRC.gov)); and the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemakings and Adjudications Staff, in accordance with 10 CFR 2.1313.

The Commission will issue a notice or order granting or denying a hearing request or intervention petition, designating the issues for any hearing that will be held and designating the Presiding Officer. A notice granting a hearing will be published in the **Federal Register** and served on the parties to the hearing.

As an alternative to requests for hearing and petitions to intervene, by November 13, 2001, persons may submit

written comments regarding the license transfer applications, as provided for in 10 CFR 2.1305. The Commission will consider and, if appropriate, respond to these comments, but such comments will not otherwise constitute part of the decisional record. Comments should be submitted to the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemakings and Adjudications Staff, and should cite the publication date and page number of this **Federal Register** notice.

For further details with respect to this action, see the applications dated June 7, 2001, and July 2, 2001, available for public inspection at the Commission's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management Systems (ADAMS) Public Electronic Reading Room on the internet at the NRC Web site, <http://www.nrc.gov/ADAMS/index.html>. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC Public Document Room (PDR) Reference staff at 1-800-397-4209, 301-415-4737 or by e-mail to [pdr@nrc.gov](mailto:pdr@nrc.gov).

Dated at Rockville, Maryland this 4th day of October 2001.

For the Nuclear Regulatory Commission.

**Gordon E. Edison, Sr.,**

*Project Manager, Project Directorate II, Section 1, Division of Licensing Project Manager, Office of Nuclear Reactor Regulation.*

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## **NUCLEAR REGULATORY COMMISSION**

**[Docket No. 50-400]**

### **Carolina Power & Light Company; Shearon Harris Nuclear Power Plant; Environmental Assessment and Finding of No Significant Impact**

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an amendment to Title 10 of the Code of Federal Regulations (10 CFR) § 50.90 for Facility Operating License No. NPF-63, issued to Carolina Power and Light Company (CP&L, the licensee) for operation of the Shearon Harris Nuclear Power Station, Unit 1 (HNP), located in Wake and Chatham Counties, North Carolina. As required by 10 CFR 51.21, the NRC is issuing this environmental assessment and finding of no significant impact.

## **Environmental Assessment**

### *Identification of the Proposed Action*

The proposed action would allow CP&L to increase the maximum reactor core power level from 2775 megawatts thermal (MWt) to 2900 MWt, which is an increase of 4.5 percent of rated core thermal power for HNP. The proposed action is in accordance with the licensee's application for amendment dated October 4, 2000, and December 14, 2000, as supplemented on March 8, March 27, April 26, May 14, May 18, June 4, June 11, June 26, June 29, July 3, July 16 (2 letters), July 17, August 17, and September 20, 2001, to revise HNP Facility Operating License and Technical Specifications to support steam generator replacement and to allow operation at an uprated reactor core power level of 2900 MWt.

### *The Need for the Proposed Action*

The proposed action permits an increase in the licensed core thermal power from 2775 MWt to 2900 MWt for HNP and provides the flexibility to increase the potential electrical output of HNP.

### *Environmental Impacts of the Proposed Action*

CP&L has submitted an environmental evaluation supporting the proposed power uprate and provided a summary of its conclusions concerning the radiological and non-radiological environmental impacts of the proposed action.

### *Radiological Environmental Assessment*

#### **Radwaste Systems**

The reactor coolant contains activated corrosion products, which are the result of metallic materials entering the water and being activated in the reactor region. Under power uprate conditions, the feedwater flow increases with power and the activation rate in the reactor region increases with power. The net result may be an increase in the activated corrosion product production. However, the evaluation has shown that the power uprate will not cause a significant change in the types or a significant increase in the amounts of any radiological effluent that may be released offsite.

Non-condensable radioactive gas from the main condenser, along with air leakage, normally contains activation gases (principally N-16, O-19 and N-13) and fission product radioactive noble gases. This is the major source of radioactive gas (greater than all other sources combined). These non-condensable gases, along with non-radioactive air, are continuously

removed from the main condensers, which discharge into the offgas system. The changes in gaseous effluents are small and are well within the uncertainty of the calculation of the original limits following implementation of the power uprate.

CP&L has concluded that there will be no significant change in the level of controls or methodology used for the processing of radioactive effluents; or handling of solid radioactive waste at HNP will not be impacted by operation at uprated power conditions, and the slight increase in effluents discharged would continue to meet the requirements of 10 CFR part 20 and 10 CFR part 50, appendix I. Therefore, the power uprate will not appreciably affect the ability to process liquid or gaseous radioactive effluents and there are no significant environmental effects from radiological releases.

#### Dose Consideration

CP&L evaluated the potential effects of power uprate conditions on the radiation sources within the plant and the radiation levels during normal and post-accident conditions. The original calculations for determining the normal operational doses and radiation shielding requirements were very conservative and had additional margin assumed in the calculations. It was determined that these margins are sufficient to accommodate any increases attributed to the 4.5 percent increase in rated thermal power. The power uprate has no significant effect on plant normal operation radiation zones and shielding requirements. In addition, the normal operation component of the total integrated dose used for radiological equipment qualification is not affected by the power uprate.

The power uprate does not involve significant increases in the offsite doses to the public from noble gases, airborne particulates, iodine, tritium, or liquid effluents. An upper bound analysis for the potential impact of the power uprate indicates that the increase in radiological releases and resultant dose impact is bounded by the percentage increase in the reactor core power. Therefore, the normal offsite doses are not significantly affected by operation at the uprated power level and remain below the limits of 10 CFR part 20 and 10 CFR part 50, Appendix I.

The uprate program included a reanalysis or evaluation of all other aspects of large-break loss-of-coolant accident (LBLOCA), small-break loss-of-coolant accidents (SBLOCA), non-LOCA accidents, and Nuclear Steam Supply System (NSSS) and balance-of-plant (BOP) structures, systems, and

components. Major NSSS components (e.g., reactor pressure vessel, pressurizer, reactor coolant pumps, and steam generators); BOP components (e.g., turbine, generator, and condensate and feedwater pumps); and major systems and sub-systems (e.g., safety injection, auxiliary feedwater, residual heat removal, electrical distribution, emergency diesel generators, containment cooling, and the ultimate heat sink) have been assessed with respect to the bounding conditions expected for operation at the uprated power level. Control systems (e.g., rod control, pressurizer pressure and level, turbine overspeed, steam generator level, and steam dump) have been evaluated for operation at uprated power conditions. Reactor trip and Engineered Safety Feature actuation setpoints have been assessed and no needed changes were identified as a result of uprated power operations. The results of all of the above analyses and evaluations have yielded acceptable results and demonstrate that all design basis acceptance criteria will continue to be met during uprated power operations.

For post-accident conditions, the existing post-accident dose rate maps are adequate for power uprate conditions, and variances from existing calculated values are insignificant. The resulting radiation levels were determined to be within current regulatory limits, and there would be no effect on the plant equipment, access to vital areas, or habitability of the control room envelope and the Technical Support Center. The licensee has determined that access to areas requiring post-accident occupancy will not be significantly affected by the power uprate.

The calculated whole body and thyroid doses at the exclusion area boundary that might result from a postulated design basis LOCA were evaluated. All offsite doses evaluated at uprated power conditions remain below established regulatory limits. Therefore, the results of the radiological analyses remain below the 10 CFR part 100 guidelines and all radiological safety margins are maintained.

#### *Non-Radiological Environmental Assessment*

The licensee reviewed the non-radiological environmental impacts of the power uprate based on information submitted in the Environmental Report (ER), Operating License Stage (OL), the NRC Final Environmental Statement (FES), and the requirements of the Environmental Protection Plan. Based on this review, the licensee concluded

that the proposed power uprate has no significant effect on the non-radiological elements of concern and the plant will be operated in an environmentally acceptable manner as established by the FES. In addition, the licensee states that existing Federal, State, and local regulatory permits presently in effect accommodate the power uprate without modification.

#### Effluent Analysis and Evaluation

According to the licensee, the proposed power uprate will result in cooling tower duty of approximately  $4.2E+08$  BTU/hr over the current operating condition, with a corresponding increase in evaporation, makeup, and cooling tower blowdown temperature. This heat duty includes a component from the normal service water system, which is not expected to change as a result of the power uprate, according to the licensee. However, the increase in cooling tower duty from  $6.67E+09$  BTU/hr evaluated in the ER-OL (for a single unit) is  $2.4E+08$  BTU/hr or 3.6 percent.

Cooling tower flowrate does not change as a result of the power uprate. However, the licensee has a concurrent project to retube the main condenser, which will result in an increase in the circulating water system flow by approximately 4,600 gpm. Cooling tower drift, which is a small fraction (0.002%) of the total cooling tower flowrate (circulating water system plus normal service water system), will increase slightly. However, the impact on the production of cooling tower drift is negligible.

The average temperature of the cooling tower blowdown is predicted by the licensee to increase by  $0.4^{\circ}\text{F}$  in the winter and  $0.1^{\circ}\text{F}$  in the summer. These values are based on the average January and July wet bulb temperatures presented in the ER-OL Table 3.4.2-2.

CP&L's original analyses predicted the mixing zone for the cooling tower blowdown to be 120 acres in the winter and 20 acres in the summer. The FES (Section 5.3.1.2.1) concluded that CP&L's original analysis conducted under extreme temperature conditions was conservative and protective of water quality standards. The analyses were done assuming two units in operation. The FES reported independent analyses that predicted that the mixing zone would remain less than 0.7 acres under all conditions.

The additional heat load to the Harris Lake associated with the power uprate of a single unit does not significantly impact the conclusions of the FES relative to the thermal impact, according to the licensee. The minimal increase in

blowdown temperature associated with the power uprate is conservative and protective of water quality standards. As discussed in the FES, adequate mixing occurs such that the size of the thermal plume is acceptably small. This remains valid in view of the fact that the original analyses were done assuming two units in operation.

The licensee had the thermal impact associated with the power uprate evaluated relative to the HNP National Pollutant Discharge Elimination System (NPDES) permit. North Carolina Department of Environment, Health, and Natural Resources issued NPDES Permit No. NC0039586 to HNP. The permit was last renewed on July 31, 1996. The NPDES permit specifies a mixing zone of an area no greater than 200 acres. The original NPDES permit contained a requirement to monitor the cooling tower blowdown to ensure compliance with the requirements of the mixing zone. However, the monitoring results subsequently led to the deletion of the requirement blowdown temperature in the NPDES. In view of the conservatism in the original CP&L analyses, the deletion of Unit 2, and the small change in cooling tower blowdown temperature, the licensee states that there will be no difficulty in meeting the 200 acre limitation on the size of the mixing zone.

The amount of water required to make up for forced evaporation from the cooling tower is expected to increase. The ER-OL predicted the annual average, forced evaporation at a power level of 100% to be 22.1 cubic feet per second (cfs). The revised comparable value for the power uprate is 22.8 cfs. The increase in the average forced evaporation loss is 0.7 cfs assuming 95% capacity factor and annual average meteorology according to the licensee.

The increase (0.7 cfs) is small relative to the total water demand from the operation of Unit 1 and the flow available from the inputs to the main reservoir. The total water consumption of 32.2 cfs includes forced evaporation (assuming a capacity factor of 95%), natural evaporation from the reservoirs, seepage, and miscellaneous plant consumption. The total inputs to the main reservoir averages 67.6 cfs. The licensee states that there is no significant impact on the main reservoir.

With regard to downstream water uses, the change is small compared to the total Cape Fear River flow (downstream of the main dam) of 3,125 cfs. The NRC, in FES Section 5.3.2.1 stated, “\* \* \* less than 1% of the average flow of the Cape Fear River (3,125 cfs) will be used by the plant. Thus, the staff’s conclusion in the

RFES-CP that the consumptive water use by a four-unit plant would not adversely affect other downstream water users is valid for a two-unit plant.” The revised water consumption by HNP is approximately 1.03% of the average Cape Fear River flow.

#### Noise Evaluation

The noise effects due to operation of HNP at uprated power conditions were reviewed. No increase in noise from the turbine or reactor building will result due to uprated power operations. In addition, the turbine and the reactor building supply and exhaust fans will continue to operate at current speeds, and the associated noise levels will also be unaffected by uprated power operations. In summary, the overall noise levels at HNP will not increase due to the power uprate.

The non-radiological environmental impacts related to the proposed power uprate at HNP have been reviewed and there are no adverse impacts or significant changes required to the current NPDES Permits or other plant administrative limits. No changes to land use would result and the proposed action does not involve any historic sites. Therefore, no new or different types of non-radiological environmental impacts are expected.

#### Summary

The NRC has completed its evaluation of the proposed action and concludes that there are no significant environmental impacts associated with the proposed action.

The proposed action will not significantly increase the probability or consequences of accidents, no changes are being made in the types of effluents that may be released off site, and there is no significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential nonradiological impacts, the proposed action does not have a potential to affect any historic sites. It does not affect nonradiological plant effluents and has no other environmental impact. Therefore, there are no significant nonradiological environmental impacts associated with the proposed action.

Accordingly, the NRC concludes that there are no significant environmental impacts associated with the proposed action.

#### *Environmental Impacts of the Alternatives to the Proposed Action*

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the “no-action” alternative). Denial of the application would result in no change in current environmental impacts, but would reduce the operational flexibility that would be afforded by the proposed change. The environmental impacts of the proposed action and the alternative action are similar.

#### *Alternative Use of Resources*

This action does not involve the use of any different resources than those previously considered in the Final Environmental Statement for HNP.

#### *Agencies and Persons Consulted*

On October 3, 2001, the NRC staff consulted with the North Carolina State official, Mr. Johnny James, of the Division of Radiation Protection, regarding the environmental impact of the proposed action. The State official had no comments.

#### **Finding of No Significant Impact**

On the basis of the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee’s letters dated October 4, 2000, and December 14, 2000, as supplemented by letters dated March 8, March 27, April 26, May 14, May 18, June 4, June 11, June 26, June 29, July 3, July 16 (2 letters), July 17, August 17, and September 20, 2001. Documents may be examined, and/or copied for a fee, at the NRC’s Public Document Room (PDR), located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the ADAMS Public Library component on the NRC Web site, <http://www.nrc.gov> (the Public Electronic Reading Room). If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC PDR Reference staff at 1-800-397-4209, or 301-415-4737, or by e-mail at [pdr@nrc.gov](mailto:pdr@nrc.gov).

Dated at Rockville, Maryland, this 3rd day of October 2001.

For the Nuclear Regulatory Commission  
**Richard P. Correia,**  
*Chief, Section 2, Project Directorate II,*  
*Division of Licensing Project Management,*  
*Office of Nuclear Reactor Regulation.*  
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## NUCLEAR REGULATORY COMMISSION

[Docket No. 50-346]

### FirstEnergy Nuclear Operating Company, FENOC; Davis-Besse Nuclear Power Plant; Environmental Assessment and Finding of No Significant Impact

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an amendment to Facility Operating License No. NPF-3 issued to FirstEnergy Nuclear Operating Company, (FENOC, or the licensee), for operation of Davis-Besse Nuclear Power Plant (DBNPS), located in Oak Harbor, Ohio. As required by 10 CFR 51.21, the NRC is issuing this environmental assessment and finding of no significant impact.

#### Environmental Assessment

##### *Identification of the Proposed Action*

The proposed action would increase the number of fuel assemblies that can be stored in the DBNPS spent fuel pool (SFP) from 735 fuel assemblies to 1,624 fuel assemblies, an increase of 889 fuel assemblies. In addition, the new spent fuel storage racks will use Boral as the neutron absorber material.

The proposed action is in accordance with the licensee's application for amendment dated December 2, 2000.

##### *The Need for the Proposed Action*

DBNPS is a pressurized water reactor which commenced commercial operation in 1974 and its current operating license will expire in April 22, 2017. DBNPS was originally designed to accommodate 735 spent fuel assemblies.

DBNPS began operating Cycle 12 (May 1998) with insufficient storage capacity in the SFP to fully offload the entire reactor core (177 fuel assemblies). Since a full core offload into the SFP was required for the performance of the 10-year inservice inspection activities during the spring 2000 Twelfth Refueling Outage, DBNPS submitted License Amendment Request 98-007 on May 21, 1999, to allow the use of spent fuel racks in the cask pit area adjacent to the SFP to perform the 10-year inservice inspection activities the NRC

staff approved this activity on February 29, 2000.

The purpose of this current license amendment request is to provide the necessary revisions to the DBNPS technical specifications (TSs) to reflect an increase in SFP storage capability from the current capacity of 735 fuel assemblies to a new capacity of 1,624 fuel assemblies. To provide additional temporary storage of fuel assemblies to support a complete re-racking of the SFP, the licensee also requested approval for up to 90 transfer pit storage locations. The transfer pit storage rack will be relocated into the SFP as part of the completion of the re-racking project. The resulting SFP fuel storage capacity will be sufficient to meet the storage needs through the current expiration date of the DBNPS operating license (April 22, 2017).

##### *Environmental Impacts of the Proposed Action*

#### Radioactive Wastes

DBNPS uses waste treatment systems designed to collect and process gaseous, liquid, and solid waste that might contain radioactive material. These radioactive waste treatment systems were evaluated in the Final Environmental Statement (FES) dated October 1975 (NUREG 75/097). The proposed SFP expansion will not involve any change in the waste treatment systems described in the FES.

#### Radioactive Material Released Into the Atmosphere

The expanded fuel storage capacity obtained by installing new fuel racks is not expected to affect the release of radioactive gases from the SFP. Gaseous fission products such as Krypton-85 and Iodine-131 are produced by the fuel in the core during reactor operation. A small percentage of these fission gases are released to the reactor coolant from the small number of fuel assemblies which are expected to develop leaks during reactor operation. During refueling operations, some of these fission products enter the SFP and are subsequently released into the air of the spent fuel building. Gaseous releases from the fuel storage area are combined with other plant exhausts. If radio-iodine levels become too high, the air can be diverted to charcoal filters for the removal of radio-iodine before release to the environment. Normally, the radioactive gas contribution from the fuel storage area is negligible compared to the gaseous releases from other areas of the plant. Since the frequency of refueling (and therefore the number of freshly off loaded spent fuel assemblies

stored in the SFP at any one time) will not increase, there will be a negligible increase in the amounts of these types of fission products released to the atmosphere as a result of the increased SFP fuel storage capacity.

Tritium gases contained in the SFP are produced from two sources. The first source is the tritium from the reactor coolant system (RCS), which is a result of neutron capture in the reactor core by <sup>10</sup>B. This tritium can only enter the spent fuel pool during refueling outages when the SFP and the RCS are interconnected. Since the proposed amendment does not increase the frequency of refueling outages, this source of tritium does not change. The second source of tritium is a result of neutron capture by <sup>10</sup>B in the SFP water. The decay neutron flux from the old fuel in the SFP is considerably smaller than the neutron flux in the core of an operating reactor. Due to the small neutron flux associated with the fuel to be stored in the new racks, the effect on tritium production will be insignificant. Therefore, the release of tritium from the storage of additional spent fuel assemblies in the transfer canal will be insignificant.

In addition, the plant radiological effluent TSs, which are not being changed by this action, restrict the total releases of gaseous activity from the plant (including the SFP).

#### Solid Radioactive Wastes

Independent of the proposed modification, the concentration of radionuclides in the SFP is controlled by the filters and demineralizer of the SFP purification system as well as by the decay of short-lived isotopes. Spent resins are generated by the processing of SFP water through the SFP purification system. Both spent resins and filters are disposed of as solid radioactive waste. The spent fuel pool cooling and cleanup system currently generates approximately 50 cubic feet of solid radioactive waste annually. Re-racking activities may result in a one-time shortening of the resin change-out interval or an increase in filter usage, however, the long-term normal resin and filter replacement frequency is not expected to be significantly affected by the additional number of fuel assemblies in storage.

There will be a one-time increase in solid waste generation due to the need to dispose of 12 fuel storage rack modules, a module for 15 failed fuel storage locations, and miscellaneous piping runs currently located in the SFP that will be replaced with the new rack modules. However, this represents an insignificant incremental increase in the