

December 21, 1990

Docket No. 50-346

Mr. Donald C. Shelton
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Dear Mr. Shelton:

SUBJECT: ENVIRONMENTAL ASSESSMENT RELATED TO AN APPLICATION FOR AMENDMENT TO FACILITY OPERATING LICENSE NO. NPF-3 FOR THE DAVIS-BESSE NUCLEAR POWER STATION (TAC NO. 75849)

Enclosed for your information is a copy of an Environmental Assessment and Finding of No Significant Impact related to the license amendment requested in your application dated May 31, 1990, as supplemented on December 17, 1990. This Environmental Assessment has been forwarded to the Office of the Federal Register for publication.

Sincerely,

original signed by

M. David Lynch, Sr. Project Manager
Project Directorate III-3
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc: See next page

DOCUMENT NAME: 75849 EA

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Davis-Besse Nuclear Power Station
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UNITED STATES NUCLEAR REGULATORY COMMISSIONTOLEDO EDISON COMPANYTHE CLEVELAND ELECTRIC ILLUMINATING COMPANYDOCKET NO. 50-346ENVIRONMENTAL ASSESSMENT AND FINDING OFNO SIGNIFICANT IMPACT

The U. S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. NPF-3, issued to Toledo Edison Company and The Cleveland Electric Illuminating Company (the licensee), for operation of the Davis-Besse Nuclear Power Station, Unit No. 1 located in Ottawa County, Ohio.

ENVIRONMENTAL ASSESSMENTIdentification of Proposed Action

The proposed amendment would extend the expiration date of Facility Operating License No. NPF-3 for Davis-Besse by about 6 years from its present date of March 24, 2011, to April 22, 2017. The latter date would be 40 years from the date of issuance of the operating license, whereas the earlier date is 40 years after issuance of the construction permit (CP). No other aspects of the license, including the existing license conditions, the plant Technical Specifications (Appendix A) and the environmental specifications (Appendix B), would be changed.

The proposed action is in accordance with the licensee's application for amendment dated May 31, 1990, supplemented on December 17, 1990.

The Need for the Proposed Action

The proposed change in the OL expiration date is needed to provide a stable block of power production in the service areas of Toledo Edison and its sister plant, the Perry Nuclear Power Plant, Unit 1, thereby enhancing the economic security of the region. Additionally, the proposed extension of the expiration date will also provide an economic benefit to the region in that it will defer the costs of replacing the existing generating capacity of the Davis-Besse facility. Finally, the northern Ohio region will benefit from the continuation of the Davis-Besse facility in the local tax base as well as by the local employment the plant provides.

Environmental Impacts of the Proposed Action

The NRC staff has reviewed the potential environmental impact of the proposed change in the expiration date of the Davis-Besse OL. This evaluation considered the previous environmental studies for this facility, including the "Final Environmental Statement Relating to the Operation of the Davis-Besse Nuclear Power Station (DBNPS) Unit 1" (FES), dated October 1975, and more recent NRC policy.

Radiological Impacts

The present projected cumulative population for the year 2010 has decreased significantly from prior estimates. For example, the cumulative population within a 50-mile radius of the Davis-Besse facility in the states of Ohio and Michigan is now projected to be about 4,030,000 in 2010, as opposed to an earlier projection of about 7,860,000. While this significant decrease in the projected cumulative population within a 50-mile radius may be modified with the passage of time, it is reasonable to conclude that the principal

factors affecting this long-term population decrease will continue. This can be seen by noting that over 80% of the decrease in the 50-mile radius cumulative population around the Davis-Besse facility is projected to occur in the Michigan counties to the south and west of the Detroit, Michigan, metropolitan area. This decrease reflects the increasing geographical dispersion of the auto industry away from Detroit and is a trend that is not expected to change over the next two decades.

To the extent that the prior industrial base in northern Ohio was dependent on the automotive sector of the regional economy as well as the steel industry centered around Cleveland, Ohio, it is reasonable to conclude that the principal factors affecting the projected long-term population decrease in northern Ohio will not be reversed over the next two decades.

On this basis, the demographic distribution projections used in the radiological analyses of the FES for the projected 40-year lifetime of the Davis-Besse facility (i.e., until the year 2011) can be considered to be a conservative upper bound for the cumulative population around the DBNPS for the year 2017.

The NRC site requirements for a nuclear power plant are contained in 10 CFR Part 100 and specify certain criteria to be considered when evaluating proposed sites. Specifically, the relevant site criteria that are potentially affected by the proposed license amendment are contained in Section 100.10(b) of 10 CFR Part 100 which requires consideration of the population density and use characteristics of the site environs, including the exclusion area, the low population zone and the population center distance.

As discussed above, the projected cumulative population around the DBNPS is expected to decrease significantly over the next 20 years. This population decrease is also projected to occur in Ottawa County, Ohio, though this projected decrease represents a much lower percentage change than that projected for the adjacent counties in Ohio and Michigan. The prior projected population for Ottawa County was about 44,100 for the year 2010 as opposed to the latest estimate of about 35,200, a decrease from the earlier projection by about 20%. Since most of the cumulative population that would be considered in evaluating the site characteristics per 10 CFR Part 100 is in Ottawa County, and the projected population in this county is expected to be lower during the 6 years contemplated in the extension of the Davis-Besse OL expiration date than that in the NRC staff's previous environmental evaluation of the radiological consequences in the FES, the staff's conclusions in Chapter 7 of the FES remain valid and, therefore, unaffected by the proposed license amendment. Specifically, the site requirements of 10 CFR Part 100 are now and would still be met with regard to the Exclusion Area Boundary, the Low Population Zone and the nearest population center distance.

The net annualized environmental impacts attributable to the uranium fuel cycle which form the basis for Table S-3 of 10 CFR Part 51 remain unchanged by the proposed license amendment. The release of radioactive effluents from the DBNPS assumed in the FES remains valid in that the assumed values have been demonstrated by actual plant operating data to be conservative, except for C-14, which operating data show to be 10 percent above the value estimated in the FES. These values are shown in Table 2 of the licensee's submittal of May 31, 1990. C-14 is discussed in the submittal of December 17, 1990. These radioactive effluents are continuously monitored in accordance

with the DBNPS Technical Specifications so as to detect any degradation of the plant's fuel elements and equipment and the proposed extension of the OL expiration date is not expected to have any impact on the radioactive effluents.

The environmental impacts attributable to transportation of fuel to, and waste from, the DBNPS with respect to normal conditions of transport and possible accidents in transport is likely to remain about the same during the proposed extended period of operation (i.e., from March 2011 to April 2017). While there are differences between the uranium fuel cycle considered in the DBNPS FES from the present and projected fuel cycles, these differences tend to cancel each other. The DBNPS now projects an 18-month fuel cycle as opposed to the annual fuel cycles assumed in the model of a light water reactor used in the FES analysis. This requires the transport of fewer fuel assemblies over the life of the plant but with a higher fuel enrichment. Another offsetting factor affecting the original FES analysis is that fuel reprocessing was originally assumed whereas the present and future plans for plant operation do not involve reprocessing. Rather, spent fuel elements are presently stored onsite for an indefinite period, thereby significantly reducing the amount of radioactivity in the spent fuel elements in the event they are shipped offsite. The impact of this extended onsite storage is to reduce the environmental effect of transporting uranium fuel elements to and from the DBNPS.

The net effect of these changes from the original assumptions in the FES is that fewer fuel elements will be shipped into the plant during its proposed extended lifetime and fewer fission products will be shipped out. The proposed extension of the operating license should not affect this conclusion.

With regard to normal plant operation, the licensee complies with the NRC guidance and requirements for keeping radiation exposure "as low as is reasonably achievable" (ALARA) for occupational exposures and for radioactivity in effluents. Technical Specifications are in place to ensure continued compliance with these requirements during any additional years of facility operations.

Nonradiological Impacts

With regard to the nonradiological impacts, the proposed extension of the Facility Operating License will not cause a significant increase in the nonradiological impacts and will not change any conclusions reached by the staff in the FES. Therefore, the staff concludes that there are no significant nonradiological environmental impacts associated with the proposed amendment.

The Notice of Consideration of Issuance of Amendment and Opportunity for Hearing in connection with this action was published in the Federal Register on November 29, 1990 (55 FR 49582). No request for hearing or petition for leave to intervene was filed following this notice.

Alternative to the Proposed Action

Since the Commission concluded that the environmental effects of the proposed action are not significant, any alternative with equal or greater environmental impacts need not be evaluated.

The principal alternative would be to deny the requested amendment. This would not reduce the environmental impacts attributable to this facility. However, it would result in an adverse economic impact on the service area of the Davis-Besse facility and northern Ohio in the time frame of March 24, 2011, to April 22, 2017, which is the proposed extension period.

Alternative Use of Resources

This action does not involve the use of any resources not previously considered in the Final Environmental Statements related to operation of the Davis-Besse Facility.

Agencies and Persons Consulted

The NRC staff reviewed the licensee's request and did not consult other agencies or persons.

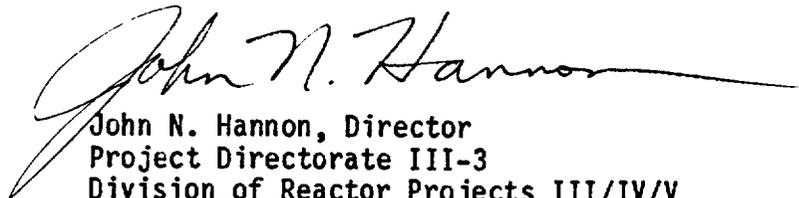
FINDING OF NO SIGNIFICANT IMPACT

The Commission has determined not to prepare an environmental impact statement for the proposed license amendment. Based upon the foregoing environmental assessment, we conclude that the proposed action will not have a significant effect on the quality of the human environment.

For further details with respect to this action, see the application for amendment dated May 31, 1990, and the supplement dated December 17, 1990, which are available for public inspection at the Commission's Public Document Room, 2120 L Street, N.W., Washington, D.C. and at the University of Toledo Library, Documents Department, 2801 Bancroft Avenue, Toledo, Ohio 43606.

Dated at Rockville, Maryland, this 21st day of December 1990.

FOR THE NUCLEAR REGULATORY COMMISSION


John N. Hannon, Director
Project Directorate III-3
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation