

July 20, 1984



Charles A. Willis
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

G84-1475
File: TT 1.4

Dear Mr. Willis:

From our review of the NRC report, Population Dose Commitments due to Radioactive Releases from Nuclear Power Plant Sites in 1980, NUREG/CR-2850, we were concerned at discovering that the Davis-Besse Nuclear Power Station (DBNPS) was the third highest of all sites evaluated in the NRC's calculations of the population doses via the liquid pathway. The basis for this concern is that during this same period, DBNPS was 35th in total liquid radioactive material releases (mixed fission and activation products).

We recognize that in an absolute sense, the NRC's calculation of 11 man-rem for 1980 for DBNPS is not significant compared to an environmental dose commitment. However, we are concerned that the NRC correlation of radioactive material releases to population doses may be overly conservative, yielding a false representation of the relative environmental impact of the operation of the DBNPS. This over conservatism resulted in the station being required to expand the environmental radiological monitoring program for compliance to the Radiological Effluent Technical Specifications.

As discussed in NUREG/CR-2850, site-specific data is used where available; lacking such data, generic assumptions are assumed concerning dilution and exposed populations via the drinking water and fish consumption pathways. In order to assist the NRC in presenting a more accurate determination of the potential population dose commitment for DBNPS, site-specific data on fish consumption and dilution afforded by the receiving water body are given in the attached Tables 1 and 2. Fish dilution data were based on compilations and analyses that were performed by the Toledo Edison Company in demonstrating compliance with the regulatory requirements of 10 CFR 50.34a and 10 CFR 50, Appendix I (refer to the Toledo Edison Company's June 4, 1976 Appendix I submittal to the NRC).

Using a weighted average of 1.8×10^{-4} for the fish dilution factor shown in Table 1, in lieu of the generic assumptions, will yield a more accurate evaluation of the potential population dose commitment attributable to the operation of the DBNPS. A further reduction in the population dose will result by using the total dilution water for the year as shown in Table 2, rather than using just the dilution water discharged during the release. If we can be of any further assistance in assuring that the appropriate site-specific parameters are considered by the NRC in their evaluation of the population doses for the DBNPS, please let us know.

Sincerely,

Terry D. Murray

Terry D. Murray, Station Superintendent
Davis-Besse Nuclear Power Station

TDM/DWB/lrh

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Attachment

cc: D. A. Baker, Battelle
M. R. Beebe, USNRC

W. W. Meinke, USNRC
D. E. Miller, USNRC

THE TOLEDO EDISON COMPANY

EDISON PLAZA

330 MADISON AVENUE

TOLEDO, OHIO 43652

*Pool Add:
1/1 Charles Willis*

TABLE 1
COMMERCIAL FISH AND SPORTFISH CATCH
DAVIS-BESSE NUCLEAR POWER STATION*

<u>TYPE OF CATCH</u>	<u>LANDING</u>	<u>AMOUNT CAUGHT (LBS)</u>	<u>DILUTION FACTOR</u>
Commerical	Lake Erie	8.42E+06	2.0E-04
Commerical	Port Clinton	5.9E+05	2.4E-04
Commerical	Sandusky Bay	2.87E+06	9.0E-05
Sport	Lake Erie	1.30E+07	2.0E-04
Total		2.49E+07 (1.13E+07 kg)	1.8E-04 (weighted average)

TABLE 2
TOTAL ANNUAL DILUTION WATER
DAVIS-BESSE NUCLEAR POWER STATION

<u>YEAR</u>	<u>VOLUME (LITERS)</u>
1981	5.18E+10
1982	3.24E+10
1983	1.87E+10

*Adapted from Davis-Besse Nuclear Power Station, Unit No. 1, Evaluation of Compliance with Appendix I to 10 CFR 50, June 4, 1976