



August 9, 1973



Mr. Daniel R. Muller  
Assistant Director for  
Environmental Projects  
Directorate of Licensing  
U. S. Atomic Energy Commission  
Washington, D. C. 20545

Dear Mr. Muller:

The draft environmental impact statement for the proposed Dresden Nuclear Power Station, Units 2 and 3, which accompanied your letter of June 26, 1973, has been received by the Department of Commerce for review and comment.

The statement has been reviewed and the following comments are offered for your consideration.

Section 2.7.2, Biota of the Illinois River, Fish

Page 2-22, The 1959-65 average annual commercial catch from the Illinois River was 1,800,000 pounds, valued at \$100,000. This catch amounted to a yield of 34 lbs/acre for the entire river, 90 percent of the production originating from the lower section of the river. In recent years, as in the past, degradation of water quality has resulted in a reduction in the quality of the commercial catch.

Page 2-23, The use of a shoreline seine would tend to bias the fish collections in favor of certain species. With regard to Table 2.4, a discussion of the effects of this sampling bias on the "Relative abundance" of fish collected near the station would be desirable.

#### Section 2.7.7, Summary

This section refers to "about a dozen species of rough fish" that reside in the cooling lake. Table C.4, page C-12, indicates, however, that not all these species are "rough" fish (e.g., largemouth bass and bluegill).

#### Section 3.4.6, River Discharge

Page 3-26, It is stated that "the area within the 5°F isotherm will always be less than 26 acres." However, because the plume size and shape depends to a great extent on the river flow (velocity) and wind conditions, the total cumulative area covered by the plume in all its configurations may well be greater than 26 acres.

#### Section 3.6.2, Biocides

Page 3-43, The concentration of total chlorine in the cooling lake at the point of discharge should be mentioned.

#### Section 5.5.1, Intake Effects

Page 5-23, The staff's conclusion that the entrainment effects of the closed-cycle operation of Units 2 and 3, in conjunction with Unit 1, will "cause no long-term adverse effects on the river as a whole" may well be true. However, it would be desirable to discuss the potential adverse effects in the pools immediately downstream with respect to stock recruitment from the Kankakee River.

With regard to impingement of fish, the fish collection program for the traveling screens should be described, either in this section or in section 6. We recommend that this program include collection of data on number, length, and weight of each species impinged on the traveling screens.

#### Section 5.5.2, Thermal Discharge Effects

Page 5-29, In addition to the increased susceptibility to pesticides, the possibility that the rate of uptake of pesticides by fish may occur more rapidly at higher water temperatures should also be discussed.

Discussion of the possibility that mortality of fish may increase due to increased incidence of disease or formation of gas embolisms also seems warranted.

#### Section 6.2.1, Nonradiological Studies

Page 6-3, The location of sample stations depicted in Figures 6.1 and 6.2 appears adequate, although we feel that more emphasis should be placed on the area adjacent to the intake. With reference to the benthic samples, replicate grab samples should be taken to ensure an accurate representation of the benthic community.

Page 6-6, The use of the Kemmerer sampler at only one depth limits the usefulness of the data on phytoplankton. As suggested by the staff on page 6-7, this study should be expanded. We recommend that the program be additionally expanded to include the Des Plaines River and a minimum of two stations in each river.

The original River Monitoring Program for "fish measurement" was inadequate, as noted by the staff on page 6-7. However, this program has been improved, according to Table 6.3. We suggest further expanding this program to include sampling with gill nets and trap nets, if possible, and increasing the sampling frequency to once per week from April through September.

#### Section 6.2.2, Radiological Monitoring

Page 6-16, The "sample media" should include benthic animals, which are important in the food chain. Sediments and biota should also be sampled near the effluent discharge, as well as at the stations listed in Table 6.7. Sediments accumulate many radionuclides, and thus are a good indicator of environmental radioactivity.

We are unable to evaluate the average annual radiological impact on man via atmospheric dispersion as discussed in section 5.4. The atmospheric dispersion computations are explained as "done using the methods described in Reference 9<sup>RD</sup>". This reference apparently is a computer program, is described as "in preparation," and is not available to the reviewer. No

reference is given to the source configuration (source height and type) nor on the meteorological data upon which the computations are made. It is stated that the relative concentration ( $\chi/Q$ ) is not applicable and that a unitless concentration ratio,  $K_c$ , is used to characterize the multi-source Dresden facility. This is misleading since according to the staff's reference (see footnote, page 5-15),  $K_c = (\chi/Q)(\bar{u}L^2)$  where  $\bar{u}$  is wind speed and  $L$  a reference parameter for length. Thus, in order to determine the effective  $\chi/Q$  needed to compute dose, a value for  $L$  is required as well as the wind speed. None of this information is specified directly or is available through a reference or in an appendix.

Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. We would appreciate receiving a copy of the final statement.

Sincerely,

*Sidney R. Galler*  
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Deputy Assistant Secretary  
for Environmental Affairs

