



# United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

ER-79/633

SEP 18 1979

Mr. Ronald L. Ballard, Chief  
Environmental Projects Branch 1  
Division of Site Safety and  
Environmental Analysis  
Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Ballard:

The Department of the Interior has reviewed the draft environmental statement for Virgil C. Summer Nuclear Station as requested in your June 29, 1979, letter. We have the following comments.

## General

Our comments and concerns are primarily with the fish and wildlife resource discussions and with the nuclear risk analysis discussions.

The statement is generally adequate and addresses potential impacts on terrestrial systems at the project site and in the transmission corridors. However, the assessment of aquatic impacts in the Monticello Reservoir is unsupported by baseline data for the new aquatic system. The Department's Fish and Wildlife Service (FWS) is aware that the majority of impacts on fishery resources in the project vicinity will occur as a result of pumped storage which will create water level fluctuations of as much as 10 feet in Parr Reservoir and 4.5 feet in the Monticello Reservoir. These unstable conditions will either severely limit or preclude the use of the affected area for spawning or nursery habitat. We therefore urge that every effort be made to increase the benefits of the proposed recreational subimpoundment which will not be affected by water level fluctuations.

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The FWS concurs with the NRC staff recommendations regarding modification of the proposed aquatic and terrestrial biological monitoring program. Any new data generated from the monitoring study should be incorporated into the final statement. Although baseline conditions will not be representative of later seral stages in the reservoir, the data collected will enhance predictive capabilities of entrainment, impingement, and thermal impacts. Aquatic impacts from actual station operation will center around entrainment, impingement, and thermal effluent. Location of the cooling water intake will have a direct effect on entrainment and impingement. Also, secondary effects regarding water quality impacts may stem from alteration of circulation in the reservoir. A series of alternative depths for the cooling water intake should be discussed. Advantages to locations below both the hypolimnion and photic zone which includes reduction in phytoplankton entrainment and the use of cooler, less oxygenated water for plant cooling should also be discussed.

Our comment on the environmental statement for the construction-permit stage about the lack of evaluation of a class 9 (core melt) accident was answered by reference to the low probability of such accidents (page H-109, item 13). Since then, NRC's Reactor Safety Study has shown the probability of such accidents to be much higher than had been assumed previously. The review of this study, organized by NRC, was unable to determine whether these probabilities were high or low, but concluded that the error bands were understated (page 6-2, item 1), or that the confidence placed in these probabilities was rather low. How much confidence can then be placed in the conclusion, continued in the present environmental statement, that the probability of class 9 accident is so small that their environmental risk is extremely low (page 6-2, paragraph 1)? We continue to believe that environmental analyses of nuclear reactor sites are not complete without due consideration of the consequences of class 9 accidents.

The section on In-plant Accidents enumerates some of the more significant findings of the Lewis Report (pages 6-2 to 6-3). The three findings that are enumerated exclude the final finding of the Lewis Report.

There have been instances in which WASH-1400 has been misused as a vehicle to judge the acceptability of reactor risks. In other cases it may have been used prematurely as an estimate of the absolute risk of reactor accidents without full realization of the wide band of uncertainties involved. Such use should be discouraged. (NUREG/CR-0400, page x)

A footnote to table 6.2 states that "These calculations do not take into consideration the experience from the incident at the Three Mile Island site on March 28, 1979" (page 6-3, footnote b). However, this provides no guidance on the possible magnitude or even the direction of the errors that may exist in the radiological consequences that are shown in the table. The largest estimated dose to population in a 50-mile radius from any accident shown in the table is 212 man-rem. Until such time as the table can be revised, it might be helpful to note that the estimated dose to the population within a 50-mile radius of the Three Mile Island site was calculated to be 3,300 man-rem (NUREG-0558, page 2, paragraph 2). Although the populations within that radius are not closely comparable for the two sites, being 2,164,000 people in the case of the Three Mile Island site, a large number of people, 810,000 are projected to be within 50 miles of Virgil C. Summer Nuclear Station Unit No. 1 in the year 1979 (page 2-3).

We note an apparent attempt in this statement to downgrade the occurrence at Three Mile Island. This occurrence was referred to as an "accident" in NRC's previous statement for New England Power Company Units 1 and 2 (page 7-4, footnote a), while in this document it is referred to as an "incident" (page 6-3, footnote b). By the NRC staff's own terminology used in tables 6.1 and 6.2, the occurrence would clearly rank as an accident, inasmuch as the estimated dose to the population within a 50-mile radius was more than six times greater (adjusted for population differences) than the most serious accident shown on table 6.2.

As far as we are aware, this is the first instance in which geology and closely-related impacts have been completely omitted from the draft environmental statement for a nuclear powerplant. However, the applicant's environmental report contains the information that "microseismic events could result from initial filling and reservoir loading fluctuations of Monticello Reservoir (ER, page 2.5-2, paragraph 2). Even

though they may have an insignificant impact, the magnitude and impact of such events should be summarized in the environmental statement for the benefit of concerned readers and reviewers. Moreover, in accord with the NRC staff's philosophy that geology will no longer be discussed in environmental impact statements for nuclear powerplants, the microseismic monitoring program which the applicant reported as currently being implemented (ER, page 2.5-2, paragraph 2) has not been mentioned either in the section on Preoperational Monitoring Programs (section 5.2) or Operational Monitoring Programs (section 5.3).

Specific Comments by Section

Section 2.5.2.5. Prediked Limnology of M. Cicello Reservoir  
Since thermal and dissolved oxygen stratification are directly related to water quality impacts resulting from plant operation, a more detailed discussion of potential effects from these phenomena is warranted.

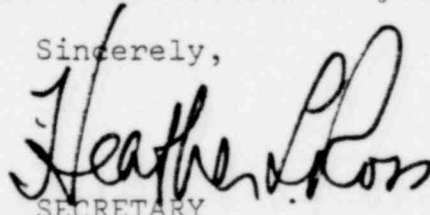
Section 4.4.1 Impacts on Biota  
The effects of fluctuating water levels on the proposed threatened plant, Myriophyllum laxum, in the shallow water habitat should be also discussed.

Section 4.4.2.1 Effects of Thermal Discharge: Phytoplankton  
The anticipated synergistic effects of increased temperature and nutrients in sewage should be discussed, especially as they relate to undesirable phytoplankton. This section should be expanded to include a more detailed description of the mitigation measures, and some quantification of the level of impact (thermal, entrainment, and impingement) that would justify their implementation.

Section 5.2.5 Aquatic Biological Monitoring  
This subsection should be similar to the subsections dealing with other proposed sampling parameters. It should be devoted to the proposed methodology for sampling vascular hydrophytes. Also, hydrophytes should be included in the first paragraph along with the proposed sampling parameters.

We hope these comments will be of assistance to your effort.

Sincerely,



Deputy Assistant SECRETARY