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Writer's Direct Dial Number:

October 15, 1984

Mr. Dennis M. Crutchfield, Chief  
Operating Reactors Branch #5  
Division of Licensing  
U.S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Dear Mr. Crutchfield:

Subject: Oyster Creek Nuclear Generating Station  
Docket No. 50-219  
Tornado and Wind Generated Missiles (SEP IPSAR  
Section 4.6.1 and 4.6.2)

Your letter of December 27, 1983 requested GPUN to evaluate the consequences of wind-generated missiles (from wind speeds less than 125 mph.) to determine whether such missiles contribute significantly to target damage.

GPUN has recently completed a study to assess the potential for wind generated missiles considering a 125 mph straight wind. The potential missiles reviewed included the following:

- 1) Missiles specified by NUREG 0800, Section 3.5.1.4.
- 2) Other potential objects from on-site:
  - concrete blocks used as radiological shielding
  - metal siding released from the Turbine or Reactor Buildings
- 3) Offsite generated missiles

The review of lift and transport potential has been based on coefficients developed in the following EPRI documents:

- (1) EPRI NP-768: Tornado Missile Analysis (May, 1978)
- (2) EPRI NP-769: Tornado Missile Analysis-Appendixes (May, 1978)
- (3) EPRI NP-2005: Tornado Missile Simulation and Design Methodology (August, 1981)

The review has concluded that, even when considering the most favorable orientation to the wind stream, no net lift is developed for the missiles under consideration. Drag forces which can be developed are small and therefore, horizontal transport distances and available velocities are too low to merit missile consideration even if the objects are injected into the air stream at an elevation above grade.

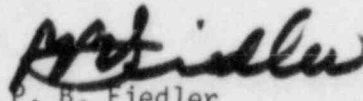
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The December 27, 1983 letter also requested GPUN to provide a publicly available reference or other basis for the data listed in Table 5-1 through 5-8 (Chapter 5) of PLG-0276 Revision which had been submitted previously. However, as we discussed with your staff reviewer on September 27, 1984 and based on the evaluation provided in Chapter 4 of the PLG-0276 Revision I, the probabilities of the tornado missile impact and damage for the diesel generator and reactor building airlock structures are extremely low ( $4.6 \times 10^{-5}$  to  $10^{-9}$  per year, Table III-1) and the probability of a postulated tornado missile damaging a component required for safe shutdown inside these structures would be further reduced. We therefore believe that the discussion provided in Chapter 5 of the PLG-0276 Revision I is not necessary in order for the staff to make an overall assessment of the potential and consequence of the tornado missile damage at Oyster Creek Nuclear Generating Station.

The staff reviewer also requested additional information concerning the potential and consequence of the tornado driven utility pole missile which was not included in the aforementioned PLG-0276 Revision I. The attached report by Applied Research Associates, Inc. documents a study of the probability of utility pole tornado missile impact and damage to the diesel generator and airlock structure at Oyster Creek. The report concludes that the utility pole missile results in only a marginal increase in the total damage probabilities for these targets. Please note that the reference 1 of the attached report, C570 "Tornado Missile Analysis of Diesel Generator Compartments and Reactors Building Airlock Structure at Oyster Creek Nuclear Generating Station", dated May, 1983 was provided in the PLG-0276 Revision I.

Very truly yours,



P. B. Fiedler  
Vice President and Director  
Oyster Creek

1r/0417e

cc: Administrator  
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NRC Resident Inspector  
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