

APPENDIX N - PEACH BOTTOM SITE METEOROLOGY

N.1 INTRODUCTION

The meteorology associated with the Peach Bottom site is described and summarized in subsection 2.3, "Meteorology." This appendix supplements subsection 2.3 by presenting additional summaries of the wind data. Hourly wind speed and wind direction measurements from the six Aerovanes located at the Peach Bottom site have been processed by computer to obtain frequency distributions by wind speed, by wind direction, and by turbulence class for each location. Temperature difference measurements from both Weather Tower No. 1 and the Microwave Tower have been correlated with wind data to obtain a frequency distribution of lapse rate by wind speed and wind direction for each location. Weather Station No. 1 and Weather Station No. 2 are designated Station 11 and Station 12, respectively, on the printouts due to restrictions in the computer program used in the analysis. Additional distributions are presented in 22 1/2-deg sectors in a response to the NRC dated September 30, 1976, "Information Requested in Enclosure 2 to letter from George Lear to E. G. Bauer dated February 17, 1976."

N.2 TWO-YEAR METEOROLOGY SUMMARIES BY LOCATION, WIND DIRECTION, WIND SPEED, TURBULENCE CLASS, AND SEASON

Printout summaries of wind frequency distributions for the period August, 1967 through July, 1969 are presented in Table N.2.1 (pages N-1b to N-91, inclusive) for both quarterly and annual periods for each of the five turbulence classes and for all classes combined. Frequencies are broken down into five wind speed groups and all groups combined for each of 36 wind directions. The mean wind speed for each summary is also listed.

The turbulence class for each hour was determined for the nominal 320-ft level in Weather Station No. 2 and for the nominal 100-ft level in Weather Station No. 1. This hourly turbulence class for a given hour as determined at this level for a station was also assigned to the other two locations at that station for that hour.

N.3 THREE-YEAR ANNUAL METEOROLOGY SUMMARIES BY LOCATION, WIND DIRECTION, WIND SPEED, AND TURBULENCE CLASS

Summaries similar to those presented in Table N.2.1 (but for only annual periods) for the three years from August, 1967 to July, 1970 inclusive, are listed in Table N.3.1 (pages N-92 to N-110, inclusive).

N.4 THREE-YEAR ANNUAL METEOROLOGY SUMMARIES BY LOCATION,
WIND DIRECTION, WIND SPEED, AND LAPSE RATE

Printout summaries of annual lapse rate frequency distributions for the same 3-yr period used in Table N.3.1 are presented in Table N.4.1 (pages N-111 to N-141, inclusive). These are broken down into eight lapse rate groups and all groups combined for each of 36 wind directions and for each of six wind speed groups. The mean wind speed for each summary is also listed.

In these summaries the temperature difference used for Weather Station No. 1 is the temperature at the nominal 100-ft level minus the temperature at the nominal 30-ft level. The temperature difference used for Weather Station No. 2 is the temperature at the nominal 320-ft level minus the temperature at the nominal 75-ft level. These temperature differences were measured directly by the Leeds & Northrup temperature system by comparing the resistance in the two circuits. The thermohms used were matched pairs to obtain an accuracy in the temperature differences of $\pm 0.1^{\circ}\text{F}$, as quoted by the manufacturer. A Beckman & Whitey aspirated thermal radiator shield (Model M327) was used on each thermohm to insure the measurements represented true air temperatures.