



Duquesne Light

Nuclear Construction Division
Robinson Plaza, Building 2, Suite 210
Pittsburgh, PA 15205

2NRC-5-025

(412) 787-5141

(412) 923-1960

Telecopy (412) 787-2629

February 14, 1985

United States Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Mr. George W. Knighton, Chief
Licensing Branch 3
Office of Nuclear Reactor Regulation

SUBJECT: Beaver Valley Power Station - Unit No. 2
Docket No. 50-412
Procedure Used to Record Calm Winds

Gentlemen:

As discussed in a meeting with the staff (January 15, 1985) and a subsequent phone call (February 7, 1985), please find enclosed a discussion on the treatment of calms in the BVPS-2 meteorological data base. Incorporated in this discussion is a description of the procedure used to record calm winds on the magnetic tape submitted to the staff on September 25, 1984 (2NRC-4-153).

If you have any questions, please contact Mr. Tom Zoglmann at (412) 787-5141.

DUQUESNE LIGHT COMPANY

By

E. J. Woolever
Vice President

TJZ/wjs
Attachment

cc: Mr. B. K. Singh, Project Manager (w/a)
Mr. G. Walton, NRC Resident Inspector (w/a)

SUBSCRIBED AND SWORN TO BEFORE ME THIS
14th DAY OF February, 1985.

Notary Public

ANITA ELAINE REITER, NOTARY PUBLIC
ROBINSON TOWNSHIP, ALLEGHENY COUNTY
MY COMMISSION EXPIRES OCTOBER 20, 1986

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TREATMENT OF CALMS IN BVPS-2 METEOROLOGICAL DATA BASE

As reported in FSAR Table 2.3-34, the starting speed of the anemometer (Climet Model WS-011-1) used to collect wind speed data at BVPS-2 is 0.6 mph. The starting speed of the vane (Climet Model WD-012-10) used to collect wind direction data is 0.75 mph. Therefore, in accordance with Regulatory Guide 1.145, Revision 1, calms are defined as any wind speed less than 0.75 mph. Since the wind speed data are recorded to the nearest 0.1 mph, wind speeds of 0.7 mph or less are considered calms. Therefore, any wind speed equal to or less than 0.7 mph (0.3 m/sec) has a corresponding wind direction value of 77777 on the NRC tape as directed by Regulatory Guide 1.23. As a result, the lowest non-calm wind speed on the NRC tape (transmitted to NRC on September 25, 1984, via letter 2NRC-4-153) is 0.4 m/sec.

In the X/Q calculations, the wind speed assigned to the calm observations (wind direction = 77777) is 0.75 mph (0.34 mps) and the calm observations are distributed among the sixteen 22.5° wind directions according to the directional distribution of wind speeds between 0.4 and 1.5 mps as directed in Regulatory Guide 1.145, Rev. 1.

The determination of calm wind speeds in the BVPS-2 meteorological data base (1977-1981) is based on the definition of "Calm" as any hourly-average wind speed below the vane or anemometer starting speed, whichever is higher. In this case, the vane starting speed of 0.75 mph is the higher of the two and defines the lowest valid wind speed (0.8 mph).

For the year 1977 and portions of 1980, all hourly-average wind speeds, including those that fall below 0.8 mph, were determined by electronically digitizing the analog wind speed trace using a minimum of 12 points per hour equally spaced across the hour; more points were used for rapidly fluctuating traces. Thus, wind speed values below 0.8 mph on the chart scale entered into the averaging process as well as those above 0.8 mph. If the average of the 12 or more points was less than 0.8 mph, then the wind speed for that hour was considered a calm (e.g., $0.3 + 0.3 + 0.5 + 0.7 + 0.8 + 0.9 + 1.0 + 0.8 + 0.7 + 0.5 + 0.5 + 0.4 \text{ mph} / 12 = 0.6 \text{ mph}$).