PSEG Public Service Electric and Gas Company

80 Park Plaza, Newark, NJ 07101 / 201 430-8217   MAILING ADDRESS / P.O. Box 570, Newark, NJ 07101

Robert L. Mittl General Manager
Nuclear Assurance and Regulation

September 7, 1984

Director of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
7920 Norfolk Avenue
Bethesda, MD 20814

Attention: Mr. Albert Schwencer, Chief
Licensing Branch 2
Division of Licensing

Gentlemen:

HOPE CREEK GENERATING STATION
DOCKET NO. 50-354
FSAR SECTION 2.3 - METEOROLOGY

Attached is a proposed change to FSAR Section 2.3 per the telecon between D. Wagner (NRC), J. Fairobent (NRC - METB), D. J. Distel (PSE&G), and R. F. Yewdall (PSE&G) on September 5, 1984.

This change is scheduled to be incorporated into Amendment 8 of the HCGS FSAR.

Should you have any questions in this regard, please contact us.

Very truly yours,

R L Mittl

8409110105 840907
PDR ADOCK 05000354
A PDR

C D. H. Wagner
USNRC Licensing Project Manager

Mr. W. H. Bateman
USNRC Senior Resident Inspector

B001
1/1

Monthly and annual joint frequency distributions of wind speed and direction, based on atmospheric stability classes, are referenced in Section 2.3.2.1.1. The 5-year data base containing hourly site meteorological data from January 1977 to December 1981 was used as input in the analysis.

2.3.3.3 Operational Data Display

The meteorological parameters required by Regulatory Guide 1.97 will be incorporated in the data base to be included on the control room integrated display system (CRIDs) computer. The display of those parameters will be available as part of the display function along with all other related Regulatory Guide 1.97 variables.

The radiation monitoring system central radiation processor (CRP) computer will provide 15-minute average meteorological monitoring system parameters. The parameters available for display are 33-ft wind speed and wind direction, 150-ft wind speed and wind direction, 300-ft wind speed and wind direction, delta-temperature stability indicators between 300- and 33-ft and 150- and 33-ft, as well as precipitation, barometric pressure, solar radiation, and ambient temperature at 33 ft.

Atmospheric transport and diffusion during normal operation will be calculated by the CRP. A method for determining atmospheric transport and diffusion throughout the plume exposure emergency planning zone during emergency conditions is being developed.

INSERT

2.3.4 SHORT-TERM DIFFUSION ESTIMATES

2.3.4.1 Objective

The objective is to provide conservative and realistic short-term estimates of relative concentration (X/Q), at both the site boundary and the outer boundary of the low population zone (LPZ) following a hypothetical release of radioactivity from HCGS. The assessment is based on the results of atmospheric diffusion modeling and onsite meteorological data.

A ground-level accidental radionuclide release from HCGS is analyzed at various distances. Conservative and realistic X/Q values at the exclusion area boundary (EAB) are derived for the

INSERT

The postoperational data collection program will consist of an enhancement to the preoperational program. The enhancement consists of a primary and backup data acquisition system (DAS) and a communication computer. A diagram of the system configuration is provided in Figure 2.3-6. A list of the system hardware components is tabulated on Table 2.3-29a. There are no changes to the meterological tower, sensors, power supply, strip chart recorders, or translator cards. The rain gauge has been changed from a weighing bucket to a tipping bucket which meets the NRC criteria of measuring 0.01 inches of precipitation. This change has been incorporated in Table 2.3-29.

The primary and backup DAS are configured with identical hardware. Each DAS consists of a Hewlett-Packard 9826a Computer, 3497A Data Acquisition/Control Unit, and a Dames & Moore transient protection system. Each DAS is provided with two communication ports, one as a link to the communications computer, and the other for direct dial-up capability. Each DAS provides for up to seven days of fifteen minute averages. The primary DAS collects data from the meterological parameters listed in Table 2.3-29. The backup DAS collects wind speed and direction from the three primary tower elevations and two delta T's, as well as from the backup meterological tower. The data acquisition system calculates a sigma theta for each of the three level wind directions.

The communications computer consists of a DEC PDP 11/23 computer and RX02 dual disk drive and is configured with nine I/O ports. The I/O ports support data transfer/interrogation with the Salem Control Room and the Hope Creek Radiation Monitoring System via a meteorological system link (which incorporates a HP9915 computer) as well as three dial-up ports. The communication computer also supports a display unit in the the Hope Creek EOF as well as communication to the primary and backup DAS.

Information on system accuracy is presented in Tables 2.3-29b and 2.3-29c.

The postoperational data collection program also includes a 30 meter backup meterological tower. The backup tower is located approximately 500 feet south of the primary meterological tower. Backup meterological data collected includes wind speed, wind direction,and a computed sigma theta. Backup meteorological instrumentation is identical to the wind speed and wind direction instrumentation identified in Table 2.3-29 for the primary tower. Backup meteorological data is collected in a digital format only.

Digital averages of the primary and backup system wind speed and wind direction are calculated using a two second sampling period, averaged over fif- teen minutes. Ambient temperature, dew point, barometric pressure, and precipitation are sampled on a 30 second interval for the calculation of the fifteen minute average. The sampling period for calculation of delta temperature is two seconds.

The calculations of the three sigma thetas on the primary system and the sigma theta on the backup system use the two second sample of horizontal wind speed and direction of the relevant elevation/location. The use of second samples over a fifteen minute averaging period provides 450 samples. The number of instantaneous values used to calculate sigma theta exceeds the minimal value of 180, referenced in proposed Revision 1 to USNRC Regulatory Guide 1.23, by a factor of 2.5.

The CRP display of meteorological parameters will be provided by "menu" driven access.

RY:dh

9/7/84

M P84 93/04 2-dh

Height Above Tower Base, ft	Sensed Parameter	Recorded Parameter	Instrument and Characteristic	Strip Recorders
33	Wind speed	Wind speed	Climet - Model 011, 3 cup anemometer. Threshold 0.6 mph, distance constant <5 ft, operating range 0 to 110 mph, accuracy ±1% or 0.15 mph, whichever is greater	Esterline - Angus Model L825
	Wind direction	Wind direction	Climet - Model 012-10 wind vane. Threshold 0.75 mph, distance constant <3.3 ft, damping ratio 0.4	Esterline - Angus Model L825
	Temperature-differential $T_{300}-T_{33}$ (1) $T_{150}-T_{33}$ (2)			
	Dew point	Dew point	EG&G Model SM 110 accuracy +0.5°F	Westronics M11B
	Temperature-ambient	Temperature	Climet - Model 016-1 Motor-aspirated temperature shield with Climet 015-3 thermistor accuracy ±0.15°C	Leeds & Northrup Speedomax Multi-Point
6	Barometric pressure	Barometric pressure	Climet - Model 010-90 pressure transducer. Range 28-32 in. Hg	Esterline - Angus Model A
3	Rainfall	Rainfall	~~Model 0504 weighing rain gage~~ MRI MODEL 302 TIPPING BUCKET ACCURACY ~~[illegible]~~ 0.01 inches	Esterline - Angus Model A
BACK-UP TOWER 33	Wind speed	Wind speed	Climet - Model 011, 3 cup anemometer. Threshold 0.6 mph, distance constant <5 ft, operating range 0 to 110 mph, accuracy ±1% or 0.15 mph, whichever is greater	(4)
BACKUP TOWER 33	Wind direction	Wind direction	Climet - Model 012-10 wind vane. Threshold 0.75 mph, distance constant <3.3 ft, damping ratio 0.4	(4)

(1) Temperature taken as part of temperature differential measurement $T_{300} - T_{33}$.
(2) Temperature taken as part of temperature differential measurement $T_{150} - T_{33}$.
(3) Poised Climet 015-3 thermistor. Accuracy ±0.1°C.
(4) RECORDED IN DIGITAL FORMAT ON COMPUTER AS 15 MINUTE AVERAGE ONLY