

PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM ATOMIC POWER STATION
UNIT NOS. 2 & 3

DOCKET NOS. 50-277 AND 50-278

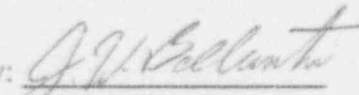
RADIATION DOSE
ASSESSMENT REPORT

NO. 8

JANUARY 1, 1992 THROUGH DECEMBER 31, 1992

SUBMITTED TO
THE UNITED STATES NUCLEAR REGULATORY COMMISSION
PURSUANT TO
FACILITY OPERATION LICENSES DPR-44 & DPR-56

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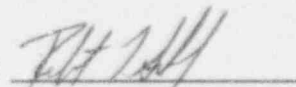

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TABLE OF CONTENTS

- I. INTRODUCTION AND SUMMARY
- II. STATION LOCATION
- III. PEACH BOTTOM LIQUID AND GASEOUS RADWASTE EFFLUENTS
- IV. HYDROLOGY AND METEOROLOGY
- V. LIQUID AND GASEOUS PATHWAY DOSE MODELS
- VI. RECEPTOR LOCATIONS AND USAGE FACTORS FOR ANNUAL DOSE EVALUATIONS
- VII. CALCULATED ANNUAL DOSES
- VIII. METEOROLOGICAL DATA
- IX. CONCLUSIONS
- X. REFERENCES

I. INTRODUCTION AND SUMMARY

In accordance with the unique reporting requirement of Technical Specification 6.9.2 applicable during the reporting period, this report summarizes the radiation doses due to radioactive effluent releases from Peach Bottom Atomic Power Station Units 2 and 3 for the period January 1, 1992 through December 31, 1992.

Detailed discussion of the methodology utilized in the report has been provided in a previous report¹. Only in those cases where the methodology has been changed will it be discussed in detail.

The radiation doses due to the release of radioactive materials during the reporting period were within 10CFR50 Appendix I limits and with 40CFR190 limits as indicated on Table I-1, Comparison of Doses Resulting from PBAPS Units 2 and 3 with 10CFR50 Appendix I Design Objectives. Specifically, the maximum offsite dose due to liquid releases was 1.14E-02 mrem; the maximum dose due to gaseous releases was 5.28E-01 mrem.

Since PBAPS releases were well within applicable radioactive effluent technical specifications limits and were a small fraction of 10CFR50 Appendix I design objectives, it is concluded that PBAPS releases were a small fraction of 40CFR190, "Environmental Radiation Protection Standards for Nuclear Power Operation" limits.

TABLE I-1

COMPARISON OF DOSES RESULTING FROM PBAPS UNITS 2 AND 3 WITH
10CFR50 APPENDIX I DESIGN OBJECTIVES

<u>DOSE PATHWAY</u>		<u>MAXIMUM DOSE FROM PBAPS</u>		<u>DESIGN OBJECTIVES REG. GUIDE 1.109</u>
		<u>VALUE</u>	<u>% of A</u>	<u>A</u>
I	Liquid Effluents			
a.	Dose to total body from all pathways	3.68E-03	0.06	3 mrem/yr/unit
b.	Dose to any organ from all pathways	1.14E-02	0.06	10 mrem/yr/unit
II	Gaseous Effluents*			
a.	Gamma dose in air	4.94E-03	0.03	10 mrad/yr/unit
b.	Beta dose in air	1.72E-02	0.04	20 mrad/yr/unit
c.	Dose to total body of an individual	1.47E-02	0.15	5 mrem/yr/unit
d.	Dose to skin of an individual	1.17E-02	0.04	15 mrem/yr/unit
e.	Dose to any organ from all pathways	5.28E-01	1.76	15 mrem/yr/unit

* 10CFR50 Appendix I specifies dose from noble gases only for categories II (a,b,c and d). PBAPS doses presented for items II (c and d) include noble gas and particulate components.

II. STATION LOCATION

Peach Bottom Atomic Power Station is located on the western shore of Conowingo Pond in York County, Pennsylvania. The station, two 3293 MWT boiling water reactors, is described in the Updated Final Safety Analysis Report². Conowingo Pond is the receiving stream for liquid radwaste effluents.

III. PEACH BOTTOM LIQUID AND GASEOUS RADWASTE EFFLUENTS

The release of radioactive materials in liquid and gaseous effluents from PBAPS were reported in the Peach Bottom Atomic Power Station Semi-annual Effluent Release Reports Nos. 33 and 34^{3 and 4}.

IV. HYDROLOGY AND METEOROLOGY

A. HYDROLOGY

Travel times and dilution factors were determined based on the daily Conowingo Pond flows in 1992. Daily Pond flows were reviewed to determine a mean monthly Pond flow. Each daily flow value was assigned to one of three Pond flow regimes⁵. The resulting daily travel times and dilution factors were then averaged to determine a monthly mean travel time and dilution factor for each receptor location.

The travel times and dilution factors for those locations in Conowingo Pond, where the highest doses were calculated, are listed in Table IV-1 for each monthly flow regime.

B. METEOROLOGY

Section VIII describes in detail the meteorology in the PBAPS region during 1992, affecting the atmospheric dispersion and the deposition of radionuclides from PBAPS gaseous radwaste releases. This meteorology was used for the evaluation of PBAPS Units 2 and 3 gaseous releases.

TABLE IV-1
PEACH BOTTOM RECEPTOR LOCATION PARAMETERS FOR 1992

Month	1500 Feet Down-Flow of Plant Discharge		Glen Cove		Conowingo Dam		Chester Water Intake	
	Travel Time (hrs)	Dilution Factor	Travel Time (hrs)	Dilution Factor	Travel Time (hrs)	Dilution Factor	Travel Time (hrs)	Dilution Factor
January	2.9	2.2	16.7	3.7	24.6	7.8	10.4	6.0
February	3.4	1.9	20.0	2.7	29.4	5.5	11.6	4.7
March	1.7	1.8	11.8	8.3	17.2	12.1	4.6	7.7
April	1.5	1.7	11.0	12.0	16.0	14.0	4.0	8.3
May	2.2	1.9	14.1	4.8	20.6	8.9	6.4	6.5
June	3.3	1.7	20.4	2.6	29.9	5.1	10.6	4.5
July	4.0	1.6	24.3	2.2	35.5	4.3	13.0	4.0
August	3.4	1.9	19.8	2.8	29.0	5.6	11.6	4.8
September	3.8	1.9	21.2	2.6	31.2	5.3	14.2	4.6
October	3.2	2.1	17.9	3.3	26.3	7.0	11.6	5.5
November	1.8	1.8	12.3	7.1	17.9	11.2	4.9	7.4
December	1.9	1.9	12.9	6.1	18.8	10.4	5.5	7.1

V. LIQUID AND GASEOUS PATHWAY DOSE MODELS

The maximum annual doses to individuals in unrestricted areas which could result from the effluent releases from PBAPS were calculated according to the guidelines in USNRC Regulatory Guide 1.109⁶ and the models described therein. Computer codes, LADTAP and GASPAR, which incorporate the computational models described in Regulatory Guide 1.109 and which were obtained from the NRC staff were used to perform the liquid and gaseous dose calculations respectively.

The liquid release pathways which were considered in making these calculations included drinking water, aquatic foods, shoreline usage, swimming and boating. All pathways were calculated using the equations and dose factors provided in the LADTAP computer code.

The gaseous release pathways which were considered included external radiation from the air and ground, inhalation and ingestion of vegetation, meat, cow's milk and goat's milk. The inhalation and ingestion pathways were evaluated for the adult, teenager, child and infant age groups. The dose calculation at each receptor was done in two parts - a dose component resulting from the off-gas stack and one from the building vents. These doses were then summed to yield a total dose for each pathway and organ.

VI. RECEPTOR LOCATION AND USAGE FACTORS FOR ANNUAL DOSE EVALUATIONS

A. Liquid Releases

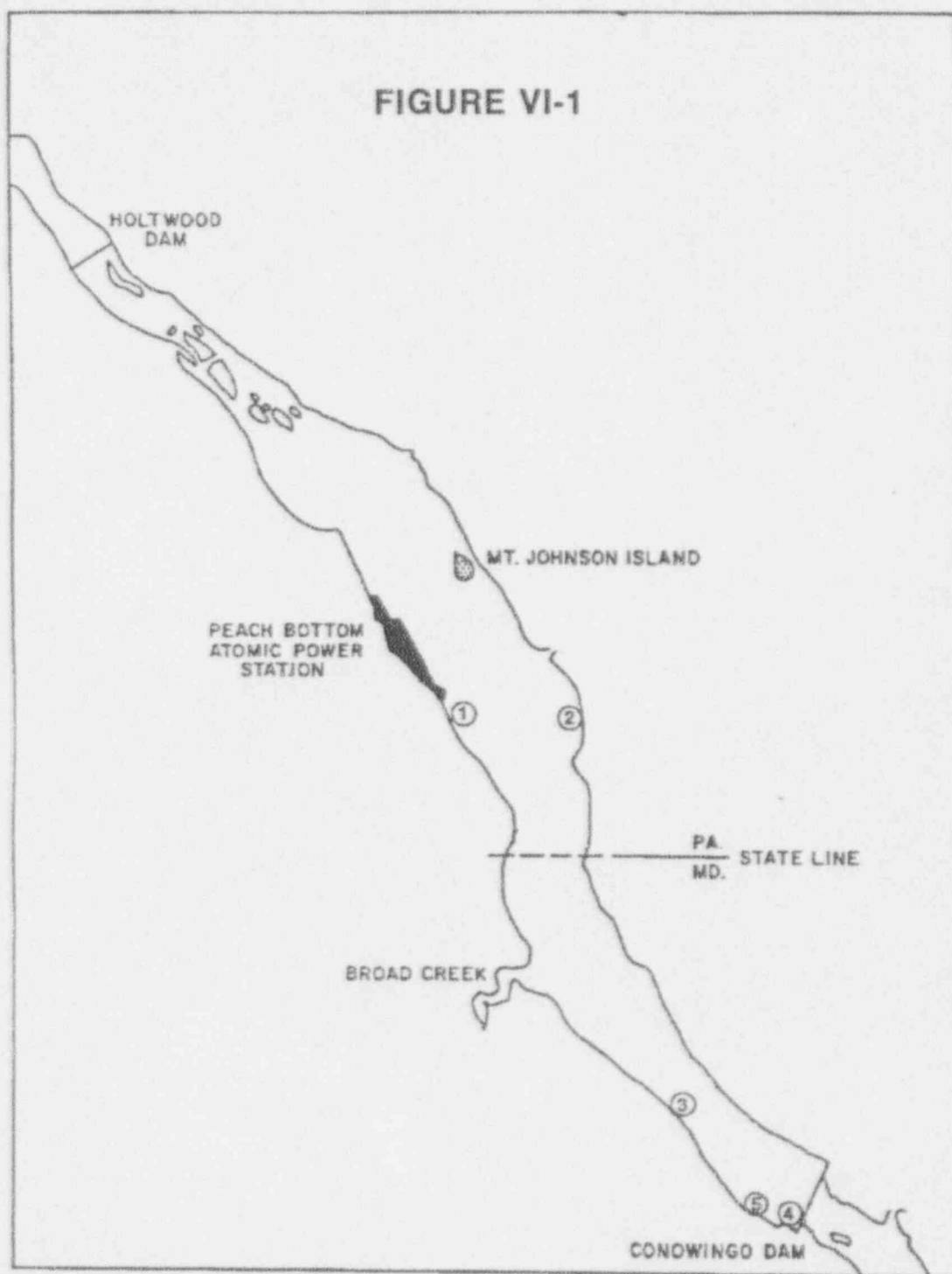
The annual doses resulting for PBAPS liquid radwaste releases were calculated at various locations on Conowingo Pond. The locations are shown in Figure VI-1. These locations were selected because they represent areas where the listed pathway activities are most likely to occur. The locations and pathways are:

<u>Location Number</u>	<u>Name</u>	<u>Pathways</u>
1	1500 feet below discharge	boating, fish
2	Chester Water Authority	drinking water
3	Glen Cove	boating, fish, shoreline, recreation, swimming
4	Conowingo Dam	drinking water

The City of Baltimore (location 5) withdrew drinking water from Conowingo Pond approximately 55 percent of the year in 1992. Since Conowingo Pond represents only a small fraction of the water supply for the City of Baltimore, any doses resulting from this pathway are much smaller than those estimated from drinking water at Conowingo Dam. The Chester Water Authority withdrew drinking water from Conowingo Pond approximately 27 percent of the year. Usage factors were adjusted accordingly. No other liquid pathway usage and consumption rates used in these calculations changed from previous years⁷.

B. Gaseous Releases

In order to assure that the location of the maximum off-site annual dose to each pathway resulting from PBAPS radioactive gaseous effluents was identified, annual doses at several locations were calculated. These included real locations of dairy pastures, and residences in each sector. Meat animal pastures were assumed to co-exist with dairy pastures. A dairy pasture survey was performed in 1992 which determined the pasture closest to PBAPS in each sector. There were no herds of milk goats within five miles of PBAPS. No gaseous pathway usage and consumption rates used in these calculation changed from previous years⁸.



Locations at which annual doses to individuals resulting from PBAPS liquid radwaste releases were evaluated

VII. CALCULATED ANNUAL DOSES

A. Liquid Releases

Tables VII-1 through VII-4 list the calculated annual doses through the various pathways to the maximum individual in the adult, teenager, child and infant age categories as a result of PBAPS liquid radwaste releases.

The maximum calculated total body dose was $3.68\text{E-}03$ mrem to the child and occurred at Location 1, 1500 feet downstream from the PBAPS Discharge canal exit. This is 0.06% of the 10CFR50, Appendix I design objective.

The maximum calculated dose to any organ was $1.14\text{E-}02$ mrem to the child bone and also occurred at Location 1. This dose is 0.06% of the 10CFR50 Appendix I design objective.

B. Gaseous Releases

Tables VII-5 and VII-6 list the annual doses to all organs through pathway by age group at the location where a person would receive the largest calculated total body and organ dose respectively resulting from exposure to noble gases, particulates and iodine released from PBAPS.

The maximum calculated total body dose was $1.47\text{E-}02$ mrem to the child and occurred at a residence 3900 feet NNW from the PBAPS building vents. This dose is 0.15% of the 10CFR50 Appendix I design objective.

The maximum calculated organ dose was $5.28\text{E-}01$ mrem to the infant thyroid and occurred at a dairy farm 5400 feet S from the PBAPS building vents. This dose is 1.76% of the 10CFR50 Appendix I design objective.

The maximum calculated skin dose was $1.17\text{E-}02$ mrem at a residence 11800 feet NW from the PBAPS building vents. This dose is 0.04% of the Appendix I design objectives.

The maximum offsite gamma air dose is $4.94\text{E-}03$ millirad, located 3900 feet NNW from the PBAPS building vents. This dose is 0.03% of the 10CFR50 Appendix I design objective.

The maximum offsite beta air dose is $1.72\text{E-}02$ millirad, located 11800 feet NW from the PBAPS building vents. This dose is 0.04% of the 10CFR50 Appendix I design objective.

The location where a person would receive the largest calculated total body

dose from exposure to PBAPS releases due to non-occupational activities inside the site boundary is at the boat ramp approximately 3300 feet NNW of the PBAPS building vents. The calculated total body dose is $1.75\text{E-}03$ mrem and calculated skin dose is $3.66\text{E-}03$ mrem assuming continuous occupancy. Assuming the shoreline recreational usage factor (325 hours per year) would result in an even more insignificant dose.

TABLE VII-1
CALCULATED MAXIMUM ANNUAL DOSES TO ADULT RESULTING FROM PBAPS LIQUID RADWASTE RELEASES
(mrem/year)

Map No.	Location	Pathway	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-LI
1	1500 ft. below discharge canal exit	Eating fish	0.00	9.46E-03	3.40E-03	3.01E-03	1.85E-05	7.84E-04	6.58E-05	4.78E-03
		Boating	0.00	4.73E-07	4.73E-07	4.73E-07	4.73E-07	4.73E-07	4.73E-07	4.73E-07
		Total	0.00	9.46E-03	3.40E-03	3.01E-03	1.90E-05	7.84E-04	6.63E-05	4.78E-03
3	Glen Cove	Eating Fish	0.00	5.25E-03	1.58E-03	1.60E-03	9.26E-06	2.96E-04	3.33E-05	2.32E-03
		Shoreline	7.69E-05	6.55E-05	6.55E-05	6.55E-05	6.55E-05	6.55E-05	6.55E-05	6.55E-05
		Swimming	0.00	7.39E-07	7.39E-07	7.39E-07	7.39E-07	7.39E-07	7.39E-07	7.39E-07
		Boating	0.00	1.59E-07	1.59E-07	1.59E-07	1.59E-07	1.59E-07	1.59E-07	1.59E-07
		Total	7.69E-05	5.32E-03	1.65E-03	1.67E-03	7.57E-05	3.62E-04	9.97E-05	2.39E-03
4	Conowingo Dam	Eating Fish	0.00	2.67E-03	8.37E-04	8.18E-04	4.81E-06	1.67E-04	4.13E-05	1.16E-03
		Drinking	0.00	1.41E-03	1.23E-04	4.89E-04	1.15E-04	1.13E-04	1.11E-04	2.13E-04
		Fishing from dam	0.00	2.38E-07	2.38E-07	2.38E-07	2.38E-07	2.38E-07	2.38E-07	2.38E-07
		Total	0.00	4.08E-03	9.60E-04	1.31E-03	1.20E-04	2.80E-04	1.53E-04	1.37E-03

TABLE VII-2
CALCULATED MAXIMUM ANNUAL DOSES TO TEENAGER RESULTING FROM PBAPS LIQUID RADWASTE RELEASES
(mrem/year)

Map No.	Location	Pathway	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-Lil
1	1500 ft. below discharge canal exit	Eating fish	0.00	9.47E-03	3.57E-03	2.88E-03	1.53E-05	7.52E-04	5.67E-05	3.77E-03
		Boating	0.00	4.73E-07	4.73E-07	4.73E-07	4.73E-07	4.73E-07	4.73E-07	4.73E-07
		Total	0.00	9.47E-03	3.57E-03	2.88E-03	1.58E-05	7.52E-04	5.72E-05	3.77E-03
3	Glen Cove	Eating Fish	0.00	5.22E-03	1.67E-03	1.52E-03	7.80E-06	2.86E-04	3.77E-05	1.85E-03
		Shoreline	7.69E-05	6.55E-05	6.55E-05	6.55E-05	6.55E-05	6.55E-05	6.55E-05	6.55E-05
		Swimming	0.00	7.39E-07	7.39E-07	7.39E-07	7.39E-07	7.39E-07	7.39E-07	7.39E-07
		Boating	0.00	1.59E-07	1.59E-07	1.59E-07	1.59E-07	1.59E-07	1.59E-07	1.59E-07
		Total	7.69E-05	5.29E-03	1.74E-03	1.59E-03	7.42E-05	3.52E-04	1.04E-04	1.92E-03
4	Conowingo Dam	Eating Fish	0.00	2.66E-03	8.84E-04	7.79E-04	4.02E-06	1.59E-04	1.95E-05	9.66E-04
		Drinking	0.00	1.16E-03	8.99E-05	3.87E-04	8.17E-05	8.01E-05	7.83E-05	1.53E-04
		Fishing from dam	0.00	2.38E-07	2.38E-07	2.38E-07	2.38E-07	2.38E-07	2.38E-07	2.38E-07
		Total	0.00	3.82E-03	9.74E-04	1.17E-03	8.60E-05	2.39E-04	9.80E-05	1.12E-03

TABLE VII-3
CALCULATED MAXIMUM ANNUAL DOSES TO CHILD RESULTING FROM PBAPS LIQUID RADWASTE RELEASES
(mrem/year)

Map No.	Location	Pathway	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-Lili
1	1500 ft. below discharge canal exit	Eating fish	0.00	1.14E-02	3.27E-03	3.68E-03	1.38E-05	5.97E-04	5.97E-05	1.55E-03
		Boating	0.00	2.64E-07	2.64E-07	2.64E-07	2.64E-07	2.64E-07	2.64E-07	2.64E-07
		Total	0.00	1.14E-02	3.27E-03	3.68E-03	1.41E-05	5.97E-04	6.00E-05	1.55E-03
3	Glen Cove	Eating Fish	0.00	6.26E-03	1.55E-03	1.71E-03	7.23E-06	2.28E-04	3.04E-05	7.67E-04
		Shoreline	3.32E-06	2.82E-06	2.82E-06	2.82E-06	2.82E-06	2.82E-06	2.82E-06	2.82E-06
		Boating	0.00	8.85E-08	8.85E-08	8.85E-08	8.85E-08	8.85E-08	8.85E-08	8.85E-08
		Total	3.32E-06	6.26E-03	1.55E-03	1.71E-03	1.01E-05	2.31E-04	3.33E-05	7.70E-04
4	Conowingo Dam	Eating Fish	0.00	3.19E-03	8.16E-04	8.91E-04	3.70E-06	1.26E-04	1.57E-05	3.99E-04
		Drinking	0.00	2.93E-03	1.74E-04	9.29E-04	1.58E-04	1.53E-04	1.50E-04	2.21E-04
		Fishing from dam	0.00	1.06E-08	1.06E-08	1.06E-08	1.06E-08	1.06E-08	1.06E-08	1.06E-08
		Total	0.00	6.12E-03	9.90E-04	1.81E-03	1.62E-04	2.79E-04	1.66E-04	6.20E-04

TABLE VII-4
CALCULATED MAXIMUM ANNUAL DOSES TO INFANT RESULTING FROM PBAPS LIQUID RAINWASTE RELEASES
(mrem/year)

Map No.	Location	Pathway	Skin	Bone	Liver	Total Body	Thyroid	Kidney	Lung	GI-LI
4	Conowingo Dam	Drinking	0.00	2.14E-03	1.03E-04	7.16E-04	1.61E-04	1.50E-04	1.47E-04	1.97E-04

TABLE VII-5
ANNUAL DOSES TO ALL ORGANS BY PATHWAY AT LOCATION
OF HIGHEST CALCULATED TOTAL BODY DOSE

ANNUAL BETA AIR DOSE = 7.08E-03 MILLRADS
ANNUAL GAMMA AIR DOSE = 4.94E-03 MILLRADS

PATHWAY	T.BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	3.23E-03	3.23E-03	3.23E-03	3.23E-03	3.23E-03	3.23E-03	3.29E-03	8.47E-03
GROUND	1.77E-04	1.77E-04	1.77E-04	1.77E-04	1.77E-04	1.77E-04	1.77E-04	2.08E-04
VEGET								
ADULT	3.40E-03	2.91E-03	3.78E-03	2.81E-03	2.77E-03	2.06E-02	2.64E-03	2.63E-03
TEEN	4.12E-03	3.47E-03	5.30E-03	3.39E-03	3.31E-03	1.89E-02	3.16E-03	3.14E-03
CHILD	6.58E-03	5.19E-03	1.03E-02	5.33E-03	5.17E-03	2.97E-02	4.96E-03	4.93E-03
INFANT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAT								
ADULT	4.52E-04	4.38E-04	9.94E-05	4.60E-04	4.61E-04	6.30E-03	4.18E-04	4.17E-04
TEEN	2.72E-04	2.61E-04	7.49E-05	2.83E-04	2.84E-04	4.51E-03	2.50E-04	2.48E-04
CHILD	3.31E-04	3.07E-04	1.24E-04	3.44E-04	3.44E-04	6.74E-03	3.02E-04	3.00E-04
INFANT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COW MILK								
ADULT	1.31E-03	1.15E-03	6.06E-04	1.50E-03	1.72E-03	1.26E-01	9.88E-04	9.78E-04
TEEN	1.78E-03	1.50E-03	1.05E-03	2.20E-03	2.58E-03	2.00E-01	1.29E-03	1.27E-03
CHILD	2.90E-03	2.19E-03	2.39E-03	3.61E-03	4.18E-03	3.96E-01	2.04E-03	2.01E-03
INFANT	4.59E-03	3.39E-03	4.41E-03	6.76E-03	6.79E-03	9.61E-01	3.11E-03	3.05E-03
INHAL								
ADULT	1.62E-03	1.63E-03	9.32E-05	1.64E-03	1.67E-03	9.24E-03	1.64E-03	1.61E-03
TEEN	1.64E-03	1.64E-03	1.10E-04	1.67E-03	1.70E-03	1.14E-02	1.67E-03	1.62E-03
CHILD	1.46E-03	1.44E-03	1.20E-04	1.48E-03	1.51E-03	1.32E-02	1.47E-03	1.43E-03
INFANT	8.39E-04	8.26E-04	6.79E-05	8.68E-04	8.74E-04	1.16E-02	8.62E-04	8.22E-04

TABLE VII-6
ANNUAL DOSES TO ALL ORGANS AT LOCATION
OF HIGHEST CALCULATED ORGAN DOSE (THYROID)

ANNUAL BETA AIR DOSE = 5.07E-03 MILLRADS
ANNUAL GAMMA AIR DOSE = 2.67E-03 MILLRADS

PATHWAY	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	SKIN
PLUME	1.74E-03	1.74E-03	1.74E-03	1.74E-03	1.74E-03	1.74E-03	1.80E-03	5.32E-03
GROUND	7.61E-05	7.61E-05	7.61E-05	7.61E-05	7.61E-05	7.61E-05	7.61E-05	8.95E-05
VEGET								
ADULT	1.75E-03	1.58E-03	1.64E-03	1.52E-03	1.51E-03	1.12E-02	1.44E-03	1.44E-03
TEEN	2.11E-03	1.88E-03	2.33E-03	1.83E-03	1.80E-03	1.02E-02	1.73E-03	1.72E-03
CHILD	3.37E-03	2.83E-03	4.68E-03	2.88E-03	2.82E-03	1.61E-02	2.71E-03	2.70E-03
INFANT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAT								
ADULT	2.44E-04	2.39E-04	4.60E-05	2.48E-04	2.50E-04	3.45E-03	2.29E-04	2.28E-04
TEEN	1.47E-04	1.43E-04	3.53E-05	1.52E-04	1.54E-04	2.47E-03	1.37E-04	1.36E-04
CHILD	1.78E-04	1.68E-04	5.98E-05	1.85E-04	1.87E-04	3.68E-03	1.65E-04	1.64E-04
INFANT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COW MILK								
ADULT	7.01E-04	6.23E-04	2.97E-04	8.01E-04	9.25E-04	6.85E-02	5.40E-04	5.36E-04
TEEN	9.54E-04	8.14E-04	5.17E-04	1.17E-03	1.39E-03	1.08E-01	7.06E-04	6.98E-04
CHILD	1.56E-03	1.19E-03	1.20E-03	1.91E-03	2.25E-03	2.15E-01	1.12E-03	1.10E-03
INFANT	2.47E-03	1.82E-03	2.26E-03	3.57E-03	3.65E-03	5.21E-01	1.70E-03	1.67E-03
INHAL								
ADULT	8.89E-04	8.90E-04	4.62E-05	8.98E-04	9.10E-04	4.54E-03	8.95E-04	8.80E-04
TEEN	8.97E-04	8.97E-04	5.47E-05	9.10E-04	9.27E-04	5.59E-03	9.11E-04	8.85E-04
CHILD	7.96E-04	7.89E-04	5.95E-05	8.07E-04	8.22E-04	6.47E-03	8.06E-04	7.83E-04
INFANT	4.59E-04	4.52E-04	3.36E-05	4.73E-04	4.76E-04	5.68E-03	4.71E-04	4.50E-04

VIII. METEOROLOGICAL DATA

The meteorology at the PBAPS site is evaluated by instruments on a meteorological tower on the bluff overlooking the plant. It is described in the USFSAR². All data are summarized using the Pasquill-Gifford system. The following three tables present the annual summary of hourly meteorological data joint frequency distributions of wind speed, wind direction and atmospheric stability.

DATA FROM 33-FOOT LEVEL

PHILADELPHIA ELECTRIC COMPANY (PECo) - Peach Bottom Atomic Power Station

PROGRAM: JFD VERSION: PC-1.1

JFD - Delta-T (320-33ft) - 33-FT Winds - 1992

SITE IDENTIFIER:

DATA PERIOD EXAMINED: 1/ 1/92 - 12/31/92

*** ANNUAL ***

STABILITY CLASS A

STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET
WIND MEASURED AT: 33.0 FEET
WIND THRESHOLD AT: .50 MPH
JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	4	7	14	16	3	8	0	0	0	0	0	0	0	0	0	1	53
3.51- 7.50	5	8	7	4	8	8	6	2	0	0	0	0	0	1	1	1	51
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	9	15	21	20	11	16	6	2	0	0	0	0	0	1	1	2	104

STABILITY CLASS B

STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET
WIND MEASURED AT: 33.0 FEET
WIND THRESHOLD AT: .50 MPH
JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	0	4	13	5	4	7	1	0	0	0	0	0	0	0	0	0	34
3.51- 7.50	5	3	1	2	9	5	7	12	3	1	0	3	2	0	1	6	60
7.51-12.50	0	0	0	0	0	1	1	6	6	1	0	0	0	2	4	6	27
12.51-18.50	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
18.51-24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	5	7	14	7	13	13	9	18	10	2	0	3	2	2	5	12	122

PHILADELPHIA ELECTRIC COMPANY (PECo) - Peach Bottom Atomic Power Station

PROGRAM: JFD VERSION: PC-1.1

JFD - Delta-T (320-33ft) - 33-FT Winds - 1992

SITE IDENTIFIER:

DATA PERIOD EXAMINED: 1/ 1/92 - 12/31/92

*** ANNUAL ***

STABILITY CLASS C
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET

WIND MEASURED AT: 33.0 FEET

WIND THRESHOLD AT: .50 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	1	4	8	12	12	7	1	0	2	1	1	0	1	0	1	1	52
3.51- 7.50	13	6	3	2	5	2	9	12	13	4	10	6	10	8	15	23	141
7.51-12.50	7	0	0	0	0	0	2	5	12	5	4	2	4	19	19	25	104
12.51-18.50	0	0	0	0	0	0	0	1	0	0	1	4	3	3	4	0	16
18.51-24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	21	10	11	14	17	9	12	18	27	10	16	12	18	30	39	49	313

STABILITY CLASS D
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET

WIND MEASURED AT: 33.0 FEET

WIND THRESHOLD AT: .50 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	108	159	173	155	135	60	42	35	28	17	13	13	15	12	26	35	1026
3.51- 7.50	183	29	22	25	50	51	121	186	171	79	63	50	66	140	180	238	1654
7.51-12.50	31	4	11	0	0	2	25	49	83	19	13	17	61	170	240	155	880
12.51-18.50	0	0	0	0	0	0	0	9	6	1	5	10	22	42	68	28	191
18.51-24.50	0	0	0	0	0	0	0	0	1	1	0	0	1	2	0	1	6
>24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	322	192	206	180	185	113	188	279	289	117	94	90	165	366	514	457	3757

PHILADELPHIA ELECTRIC COMPANY (PECo) - Peach Bottom Atomic Power Station

PROGRAM: JFD VERSION: PC-1.1

JFD - Delta-T (320-33ft) - 33-FT Winds - 1992

SITE IDENTIFIER:

DATA PERIOD EXAMINED: 1/ 1/92 - 12/31/92

*** ANNUAL ***

STABILITY CLASS E

STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET
WIND MEASURED AT: 33.0 FEET
WIND THRESHOLD AT: .50 MPH
JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	93	88	106	134	167	124	128	91	84	66	71	63	88	93	102	87	1585
3.51- 7.50	50	12	19	11	15	34	71	140	107	55	72	86	112	191	165	76	1216
7.51-12.50	12	6	5	0	0	0	13	13	11	5	12	7	9	17	12	6	128
12.51-18.50	4	0	0	0	0	0	0	3	1	1	0	0	0	2	0	1	12
18.51-24.50	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	3
>24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	159	106	130	145	182	158	212	249	204	127	155	156	209	303	279	170	2944

STABILITY CLASS F

STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET
WIND MEASURED AT: 33.0 FEET
WIND THRESHOLD AT: .50 MPH
JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	19	15	21	26	32	24	13	11	17	29	68	115	86	66	30	16	588
3.51- 7.50	1	0	0	0	1	0	0	0	2	3	13	21	20	8	4	1	74
7.51-12.50	1	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	4
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	21	16	21	26	33	24	13	11	19	32	82	136	106	75	34	17	666

PHILADELPHIA ELECTRIC COMPANY (PECo) - Peach Bottom Atomic Power Station

PROGRAM: JFD VERSION: PC-1.1

JFD - Delta-T (320-33ft) - 33-FT Winds - 1992

SITE IDENTIFIER:

DATA PERIOD EXAMINED: 1/ 1/92 - 12/31/92

*** ANNUAL ***

STABILITY CLASS G
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET
WIND MEASURED AT: 33.0 FEET
WIND THRESHOLD AT: .50 MPH
JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	1	4	4	3	6	2	4	2	1	3	35	61	37	20	6	6	195
3.51- 7.50	0	0	0	0	0	0	0	0	0	0	4	14	1	0	0	0	19
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	4	4	3	6	2	4	2	1	3	39	75	38	20	6	6	214

STABILITY CLASS ALL
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET
WIND MEASURED AT: 33.0 FEET
WIND THRESHOLD AT: .50 MPH
JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	226	281	339	351	359	232	189	139	132	116	188	252	227	191	165	146	3533
3.51- 7.50	257	58	52	44	88	100	214	352	296	142	162	180	211	348	366	345	3215
7.51-12.50	51	11	16	0	0	3	41	73	112	30	30	26	74	209	275	192	1143
12.51-18.50	4	0	0	0	0	0	0	13	8	2	1	14	25	47	72	29	220
18.51-24.50	0	0	0	0	0	0	0	2	2	1	0	0	1	2	0	1	9
>24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	538	350	407	395	447	335	444	579	550	291	386	472	538	797	878	713	8120

PHILADELPHIA ELECTRIC COMPANY (PECo) - Peach Bottom Atomic Power Station

PROGRAM: JFD VERSION: PC-1.1

JFD - Delta-T (320-33ft) - 33-FT Winds - 1992

SITE IDENTIFIER:

DATA PERIOD EXAMINED: 1/ 1/92 - 12/31/92

*** ANNUAL ***

STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET

WIND MEASURED AT: 33.0 FEET

WIND THRESHOLD AT: .50 MPH

TOTAL NUMBER OF OBSERVATIONS: 8784

TOTAL NUMBER OF VALID OBSERVATIONS: 8120

TOTAL NUMBER OF MISSING OBSERVATIONS: 664

PERCENT DATA RECOVERY FOR THIS PERIOD: 92.4 %

MEAN WIND SPEED FOR THIS PERIOD: 4.8 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
1.28	1.50	3.85	46.27	36.26	8.20	2.64

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	9	15	21	20	11	16	6	2	0	0	0	0	0	1	1	2	0
B	5	7	14	7	13	13	9	18	10	2	0	3	2	2	5	12	0
C	21	10	11	14	17	9	12	18	27	10	16	12	18	30	39	49	0
D	322	192	206	180	185	113	188	279	289	117	94	90	165	366	514	457	0
E	159	106	130	145	182	158	212	249	204	127	155	156	209	303	279	170	0
F	21	16	21	26	33	24	13	11	19	32	82	136	106	75	34	17	0
G	1	4	4	3	6	2	4	2	1	3	39	75	38	20	6	6	0
TOTAL	538	350	407	395	447	335	444	579	550	291	386	472	538	797	878	713	0

DATA FROM 75-FOOT LEVEL

PHILADELPHIA ELECTRIC COMPANY (PECO) - Peach Bottom Atomic Power Station

PROGRAM: JFD VERSION: PC-1.1

JFD - Delta-T (320-33ft) - 75-FT Winds - 1992

SITE IDENTIFIER:

DATA PERIOD EXAMINED: 1/ 1/92 - 12/31/92

*** ANNUAL ***

STABILITY CLASS A
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET

WIND MEASURED AT: 75.0 FEET

WIND THRESHOLD AT: .50 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 75.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	0	1	6	4	1	0	0	0	0	0	0	0	0	0	0	0	12
3.51- 7.50	0	11	24	17	10	15	4	0	0	0	0	0	0	1	0	1	83
7.51-12.50	0	2	0	0	1	3	2	0	0	0	0	0	0	0	1	0	9
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	14	30	21	12	18	6	0	0	0	0	0	0	1	1	1	104

STABILITY CLASS B
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET

WIND MEASURED AT: 75.0 FEET

WIND THRESHOLD AT: .50 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 75.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	0	0	2	6	2	0	0	0	0	0	0	0	0	0	0	0	10
3.51- 7.50	0	7	9	8	7	12	6	6	5	1	0	1	1	0	0	3	66
7.51-12.50	0	1	0	0	1	4	6	4	6	2	0	1	2	2	2	6	37
12.51-18.50	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	3	6
18.51-24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	8	11	14	10	16	12	10	12	3	0	2	3	3	3	12	119

PHILADELPHIA ELECTRIC COMPANY (PECo) - Peach Bottom Atomic Power Station

PROGRAM: JFD VERSION: PC-1.1

JFD - Delta-T (320-33ft) - 75-FT Winds - 1992

SITE IDENTIFIER:

DATA PERIOD EXAMINED: 1/ 1/92 - 12/31/92

*** ANNUAL ***

STABILITY CLASS C
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET

WIND MEASURED AT: 75.0 FEET

WIND THRESHOLD AT: .50 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 75.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	0	1	2	8	6	2	2	0	1	0	0	0	0	0	0	0	22
3.51- 7.50	6	11	8	5	14	8	12	5	6	4	3	6	7	2	8	13	118
7.51-12.50	6	3	0	0	0	1	3	5	18	7	5	1	9	14	15	25	112
12.51-18.50	4	1	0	0	0	0	0	1	2	1	3	6	6	10	12	9	55
18.51-24.50	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3
>24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	16	16	10	13	20	11	17	11	27	12	11	13	23	28	35	47	310

STABILITY CLASS D
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET

WIND MEASURED AT: 75.0 FEET

WIND THRESHOLD AT: .50 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 75.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	29	49	89	140	82	38	19	19	18	10	12	7	8	5	9	16	550
3.51- 7.50	91	123	76	89	134	78	101	154	127	77	41	42	42	54	91	124	2444
7.51-12.50	61	54	7	0	6	33	52	66	129	47	35	44	90	208	224	193	1249
12.51-18.50	11	6	10	5	0	1	2	9	19	4	10	10	45	77	98	118	425
18.51-24.50	1	0	0	0	0	0	0	1	2	1	0	8	20	19	20	10	82
>24.50	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	3
TOTAL	193	232	182	234	222	150	174	249	295	139	98	112	206	364	442	461	3753

PHILADELPHIA ELECTRIC COMPANY (PECo) - Peach Bottom Atomic Power Station

PROGRAM: JFD VERSION: PC-1.1

JFD - Delta-T (320-33ft) - 75-FT Winds - 1992

SITE IDENTIFIER:

DATA PERIOD EXAMINED: 1/ 1/92 - 12/31/92

*** ANNUAL ***

STABILITY CLASS E
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET

WIND MEASURED AT: 75.0 FEET

WIND THRESHOLD AT: .50 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 75.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	1
.51- 3.50	45	39	77	72	123	75	68	78	67	38	38	35	39	41	35	35	905
3.51- 7.50	50	31	33	32	59	84	103	170	128	84	95	75	97	157	136	85	1419
7.51-12.50	21	13	5	6	6	10	25	27	34	21	20	66	83	94	79	41	552
12.51-18.50	2	9	4	3	1	1	1	7	4	0	0	3	5	2	2	4	48
18.51-24.50	0	3	0	0	0	0	0	2	1	1	0	0	0	2	0	0	9
>24.50	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
TOTAL	118	95	120	113	189	170	197	285	235	144	153	179	224	296	252	165	2936

STABILITY CLASS F
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET

WIND MEASURED AT: 75.0 FEET

WIND THRESHOLD AT: .50 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 75.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	17	10	15	13	18	37	19	24	24	20	19	33	51	40	42	30	412
3.51- 7.50	4	1	0	1	1	2	5	1	4	7	14	43	55	42	29	14	223
7.51-12.50	0	0	0	0	0	0	0	0	0	0	2	13	12	2	0	0	29
12.51-18.50	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
18.51-24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	21	12	16	14	19	39	24	25	28	27	35	89	118	84	71	44	666

PHILADELPHIA ELECTRIC COMPANY (PECO) - Peach Bottom Atomic Power Station

PROGRAM: JFD VERSION: PC-1.1

JFD - Delta-T (320-33ft) - 75-FT Winds - 1992

SITE IDENTIFIER:

DATA PERIOD EXAMINED: 1/ 1/92 - 12/31/92

*** ANNUAL ***

STABILITY CLASS G
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET

WIND MEASURED AT: 75.0 FEET

WIND THRESHOLD AT: .50 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 75.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	4	1	1	3	7	3	2	4	2	1	8	12	30	40	30	9	157
3.51- 7.50	0	0	0	0	0	0	1	0	0	1	3	11	25	14	2	0	57
7.51-12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.51-18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.51-24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	4	1	1	3	7	3	3	4	2	2	11	23	55	54	32	9	214

STABILITY CLASS ALL
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET

WIND MEASURED AT: 75.0 FEET

WIND THRESHOLD AT: .50 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 75.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	1
.51- 3.50	95	101	192	246	239	155	110	125	112	69	77	87	128	126	116	90	2068
3.51- 7.50	151	184	150	152	225	199	232	336	270	174	156	178	227	270	266	240	3410
7.51-12.50	88	73	13	6	14	51	88	102	187	77	62	125	196	320	321	265	1988
12.51-18.50	17	17	15	8	1	2	3	17	26	5	13	19	55	90	113	134	536
18.51-24.50	1	3	0	0	0	0	0	3	3	2	0	8	21	23	20	10	94
>24.50	0	0	0	0	0	0	0	1	1	0	0	1	1	1	0	0	5
TOTAL	352	378	370	412	479	407	433	584	599	327	308	418	629	830	836	739	8102

PHILADELPHIA ELECTRIC COMPANY (PECo) - Peach Bottom Atomic Power Station

PROGRAM: JFD VERSION: PC-1.1

JFD - Delta-T (320-33ft) - 75-FT Winds - 1992

SITE IDENTIFIER:

DATA PERIOD EXAMINED: 1/ 1/92 - 12/31/92

*** ANNUAL ***

STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET

WIND MEASURED AT: 75.0 FEET

WIND THRESHOLD AT: .50 MPH

TOTAL NUMBER OF OBSERVATIONS: 8784

TOTAL NUMBER OF VALID OBSERVATIONS: 8102

TOTAL NUMBER OF MISSING OBSERVATIONS: 682

PERCENT DATA RECOVERY FOR THIS PERIOD: 92.2 %

MEAN WIND SPEED FOR THIS PERIOD: 6.5 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
1.28	1.47	3.83	46.32	36.24	8.22	2.64

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	0	14	30	21	12	18	6	0	0	0	0	0	0	1	1	1	0
B	0	8	11	14	10	16	12	10	12	3	0	2	3	3	3	12	0
C	16	16	10	13	20	11	17	11	27	12	11	13	23	28	35	47	0
D	193	232	182	234	222	150	174	249	295	139	98	112	206	364	442	461	0
E	118	95	120	113	189	170	197	285	235	144	153	179	224	296	252	165	1
F	21	12	16	14	19	39	24	25	28	27	35	89	118	84	71	44	0
G	4	1	1	3	7	3	3	4	2	2	11	23	55	54	32	9	0
TOTAL	352	378	370	412	479	407	433	584	599	327	308	418	629	830	836	739	1

DATA FROM 320-FOOT LEVEL

PHILADELPHIA ELECTRIC COMPANY (PECO) - Peach Bottom Atomic Power Station

PROGRAM: JPD VERSION: PC-1.1

JPD - Delta-T (320-33ft) - 320-FT Winds - 1992

SITE IDENTIFIER:

DATA PERIOD EXAMINED: 1/ 1/92 - 12/31/92

*** ANNUAL ***

STABILITY CLASS A
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET
WIND MEASURED AT: 320.0 FEET
WIND THRESHOLD AT: .50 MPH
JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 320.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.51- 7.50	0	1	3	8	14	4	0	0	0	0	0	0	0	0	0	1	31
7.51-12.50	0	3	7	6	6	11	10	0	0	0	0	0	0	1	0	0	44
12.51-18.50	0	1	2	0	2	1	0	0	0	0	0	0	0	1	0	0	7
18.51-24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	5	12	14	22	16	10	0	0	0	0	0	0	2	0	1	82

STABILITY CLASS B
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET
WIND MEASURED AT: 320.0 FEET
WIND THRESHOLD AT: .50 MPH
JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 320.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
3.51- 7.50	0	5	7	5	6	9	3	0	2	0	0	1	0	0	1	1	40
7.51-12.50	0	1	2	0	1	8	14	7	7	1	0	2	1	1	1	3	49
12.51-18.50	0	1	2	0	0	1	3	0	3	1	0	1	0	0	5	2	19
18.51-24.50	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	3
>24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	7	11	6	8	18	20	7	13	2	0	4	1	1	9	6	113

PHILADELPHIA ELECTRIC COMPANY (PECo) - Peach Bottom Atomic Power Station

PROGRAM: JFD VERSION: PC-1.1

JFD - Delta-T (320-33ft) - 320-FT Winds - 1992

SITE IDENTIFIER:

DATA PERIOD EXAMINED: 1/ 1/92 - 12/31/92

*** ANNUAL ***

STABILITY CLASS C
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET

WIND MEASURED AT: 320.0 FEET

WIND THRESHOLD AT: .50 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 320.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	4
3.51- 7.50	5	6	4	10	11	14	3	1	7	0	1	2	1	0	4	7	78
7.51-12.50	5	1	0	0	0	4	15	2	11	7	8	5	9	5	8	14	94
12.51-18.50	6	2	0	0	0	1	1	2	8	5	1	1	9	19	17	15	87
18.51-24.50	1	0	0	0	0	0	0	1	1	0	0	6	4	6	7	1	27
>24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	6
TOTAL	17	12	4	11	13	19	19	6	27	12	10	14	23	33	39	37	296

STABILITY CLASS D
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET

WIND MEASURED AT: 320.0 FEET

WIND THRESHOLD AT: .50 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 320.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	15	7	19	31	21	8	6	6	2	5	5	4	4	3	8	9	153
3.51- 7.50	57	52	62	76	74	72	55	50	54	38	35	15	14	8	33	51	746
7.51-12.50	86	55	40	41	119	71	126	97	164	76	46	48	51	50	125	120	1315
12.51-18.50	39	34	16	14	37	51	35	35	73	24	11	29	74	165	208	120	965
18.51-24.50	9	3	0	1	2	9	6	6	18	1	6	6	36	75	90	68	336
>24.50	0	0	14	5	0	1	0	1	2	1	1	10	30	42	35	17	159
TOTAL	206	151	151	168	253	212	228	195	313	145	104	112	209	343	499	385	3674

PHILADELPHIA ELECTRIC COMPANY (PECo) - Peach Bottom Atomic Power Station

PROGRAM: JPD VERSION: PC-1.1

JPD - Delta-T (320-33ft) - 320-FT Winds - 1992

SITE IDENTIFIER:

DATA PERIOD EXAMINED: 1/ 1/92 - 12/31/92

*** ANNUAL ***

STABILITY CLASS E																	
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET																	
WIND MEASURED AT: 320.0 FEET																	
WIND THRESHOLD AT: .50 MPH																	
JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 320.00 FEET																	
SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
.51- 3.50	10	8	7	7	16	12	15	16	11	17	17	8	9	8	6	7	174
3.51- 7.50	42	41	33	71	63	43	71	73	64	50	72	35	26	21	20	34	759
7.51-12.50	54	32	27	27	43	76	76	117	169	79	75	48	54	59	79	74	1089
12.51-18.50	29	10	16	7	12	21	23	52	61	41	36	52	65	118	122	63	728
18.51-24.50	4	6	7	2	3	4	5	9	6	1	4	6	10	14	10	2	93
>24.50	2	7	7	2	8	1	0	3	3	1	0	0	1	2	0	0	37
TOTAL	141	104	97	116	145	157	190	270	314	189	204	149	165	222	237	180	2880

STABILITY CLASS F																	
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET																	
WIND MEASURED AT: 320.0 FEET																	
WIND THRESHOLD AT: .50 MPH																	
JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 320.00 FEET																	
SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	1
.51- 3.50	6	5	2	6	9	2	5	5	7	10	7	12	4	2	6	4	92
3.51- 7.50	16	13	6	4	4	6	12	17	23	32	40	22	13	15	15	13	251
7.51-12.50	9	5	3	1	1	4	9	15	11	21	25	21	35	19	33	18	230
12.51-18.50	0	0	0	0	0	0	0	1	2	1	10	12	18	14	7	4	69
18.51-24.50	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4
>24.50	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
TOTAL	31	24	12	11	14	12	26	38	43	64	82	67	72	52	61	39	649

PHILADELPHIA ELECTRIC COMPANY (PECo) - Peach Bottom Atomic Power Station

PROGRAM: JFD VERSION: PC-1.1

JFD - Delta-T (320-33ft) - 320-FT Winds - 1992

SITE IDENTIFIER:

DATA PERIOD EXAMINED: 1/ 1/92 - 12/31/92

*** ANNUAL ***

STABILITY CLASS G
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET
WIND MEASURED AT: 320.0 FEET
WIND THRESHOLD AT: .50 MPH
JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 320.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	1
.51- 3.50	4	3	1	3	1	2	2	0	1	4	0	6	5	6	3	1	42
3.51- 7.50	5	5	4	1	0	1	0	3	7	2	7	13	17	14	15	8	102
7.51-12.50	0	0	0	0	0	0	2	0	1	0	10	14	8	7	9	2	53
12.51-18.50	0	0	0	0	0	0	0	0	0	0	3	1	4	6	0	1	15
18.51-24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	9	8	5	4	1	3	4	3	9	6	20	34	34	33	27	12	213

STABILITY CLASS ALL
STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET
WIND MEASURED AT: 320.0 FEET
WIND THRESHOLD AT: .50 MPH
JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 320.00 FEET

SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	2
.51- 3.50	35	24	29	49	50	24	28	27	21	36	29	30	22	19	23	21	467
3.51- 7.50	125	125	119	175	172	149	144	144	157	122	155	88	71	58	88	115	2007
7.51-12.50	154	97	79	75	170	174	252	238	363	184	164	138	158	142	255	231	2874
12.51-18.50	74	48	36	21	51	75	62	90	147	72	61	96	170	323	359	205	1890
18.51-24.50	14	9	7	3	5	13	11	16	26	2	10	28	52	97	109	71	463
>24.50	2	8	22	7	8	2	0	4	5	2	1	10	31	47	38	17	204
TOTAL	404	311	292	330	456	437	497	519	719	418	420	380	504	686	872	660	7907

PHILADELPHIA ELECTRIC COMPANY (PECO) - Peach Bottom Atomic Power Station

PROGRAM: JFD VERSION: PC-1.1

JFD - Delta-T (320-33ft) - 320-FT Winds - 1992

SITE IDENTIFIER:

DATA PERIOD EXAMINED: 1/ 1/92 - 12/31/92

*** ANNUAL ***

STABILITY BASED ON: DELTA T BETWEEN 320.0 AND 33.0 FEET

WIND MEASURED AT: 320.0 FEET

WIND THRESHOLD AT: .50 MPH

TOTAL NUMBER OF OBSERVATIONS: 8784

TOTAL NUMBER OF VALID OBSERVATIONS: 7907

TOTAL NUMBER OF MISSING OBSERVATIONS: 877

PERCENT DATA RECOVERY FOR THIS PERIOD: 90.0 %

MEAN WIND SPEED FOR THIS PERIOD: 10.8 MPH

TOTAL NUMBER OF OBSERVATIONS WITH BACKUP DATA: 0

PERCENTAGE OCCURRENCE OF STABILITY CLASSES

A	B	C	D	E	F	G
1.04	1.43	3.74	46.47	36.42	8.21	2.69

DISTRIBUTION OF WIND DIRECTION VS STABILITY

	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM
A	0	5	12	14	22	16	10	0	0	0	0	0	0	2	0	1	0
B	0	7	11	6	8	18	20	7	13	2	0	4	1	1	9	6	0
C	17	12	4	11	13	19	19	6	27	12	10	14	23	33	39	37	0
D	206	151	151	168	253	212	228	195	313	145	104	112	209	343	499	385	0
E	141	104	97	116	145	157	190	270	314	189	204	149	165	222	237	180	0
F	31	24	12	11	14	12	26	38	43	64	82	67	72	52	61	39	1
G	9	8	5	4	1	3	4	3	9	6	20	34	34	33	27	12	1
TOTAL	404	311	292	330	456	437	497	519	719	418	420	380	504	686	872	660	2

IX. CONCLUSION

Table I-1, Introduction and Summary, summarized the maximum calculated annual doses resulting from Peach Bottom Atomic Power Station Units 2 and 3 routine liquid and atmospheric radwaste releases and how they compare to the 10CFR50 Appendix I design objective dose limits. All calculated doses were extremely low and well within the 10CFR50 Appendix I design objective dose limits.

X. REFERENCES

1. Philadelphia Electric Company, "Peach Bottom Atomic Power Station Units 2 and 3, Radiation Dose Assessment Report No. 5", January 1, 1989 through December 31, 1989.
2. Philadelphia Electric Company, "Peach Bottom Atomic Power Station Units 2 and 3, Updated Final Safety Analysis Report."
3. Philadelphia Electric Company, "Peach Bottom Atomic Power Station Units 2 and 3, Semi-Annual Effluent Releases Report No. 33", January 1, 1992 through June 30, 1992.
4. Philadelphia Electric Company, "Peach Bottom Atomic Power Station Units 2 and 3, Semi-Annual Effluent Releases Report No. 34", July 1, 1992 through December 31, 1992.
5. Philadelphia Electric Company, "Peach Bottom Atomic Power Station Units 2 and 3, Radioactive Effluent Dose Assessment", September 30, 1976.
6. U. S. Nuclear Regulatory Commission, Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluent for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I", Revision 1, October, 1977.
7. Philadelphia Electric Company, "Peach Bottom Atomic Power Station Units 2 and 3, Radiation Dose Assessment Report No. 5", January 1, 1989 through December 31, 1989, Table V-1.
8. Philadelphia Electric Company, "Peach Bottom Atomic Power Station Units 2 and 3, Radiation Dose Assessment Report No. 5", January 1, 1989 through December 31, 1989, Table V-2.