

May 1, 2002

Re: Indian Point Units No. 1 and No. 2

Docket Nos. 50-03 and 50-247

NL-02-065

U.S. Nuclear Regulatory Commission

ATTN: Document Control Desk

Mail Stop O-P1-17

Washington, D.C. 20555-0001

Subject: Annual Effluent and Waste Disposal Report

Dear Sir:

Attached is the 2001 Annual Effluent and Waste Disposal Report for Entergy Nuclear Operation, Inc.'s (ENO's) Indian Point Units No. 1 and 2.

No new regulatory commitments are being made by ENO in this correspondence.

Should you have any questions regarding this matter, please contact Mr. John McCann, Manager, Nuclear Safety and Licensing at (914) 734-5074.

Sincerely,

Fred Dacimo

Vice President - Operations

Indian Point 2

Attachments

IE 25

cc: Mr. Hubert J. Miller
Regional Administrator - Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. Patrick D. Milano, Senior Project Manager Project Directorate I-1 Division of Licensing Project Management Office of Nuclear Reactor Regulation U.S. Nuclear Regulatory Commission Mail Stop O-8-C2 Washington, D.C. 20555

Senior Resident Inspector U.S. Nuclear Regulatory Commission P.O. Box 38 Buchanan, NY 10511

Attn. Chief, Compliance Section New York State DEC Division of Water 50 Wolf Road Albany, NY 12233

Attn. Regional Water Engineer New York State DEC 200 White Plains Road White Plains, NY 10601

NL-02-065 May, 2002 Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

## ANNUAL

## EFFLUENT AND WASTE DISPOSAL REPORT

2001

ENTERGY NUCLEAR OPERATIONS, INC. INDIAN POINT UNITS NO. 1 & 2 DOCKET NOS. 50-03 & 50-247 MAY 2002

Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

#### ANNUAL

## EFFLUENT AND WASTE DISPOSAL REPORT

2001

FACILITY: Indian Point Station (Units 1 and 2)

LICENSEE: Entergy Nuclear Operations, Inc.

This information is provided pursuant to 10 CFR 50.36a(a)(2) and employs certain guidance as set forth in Regulatory Guide 1.21, Revision 1. The numbered sections of this part of the report reference corresponding sections of the subject Regulatory Guide, pages 1.21-10 through 1.21-12. This Annual Effluent and Waste Disposal Report for Indian Point Units 1 and 2 covers discharges for 2001. Entergy Nuclear Operations, Inc., the licensee for Indian Point Unit 3, will also issue a report for the Indian Point Unit No. 3 facility, separately.

## A. Supplemental Information and Definition

## 1. Regulatory Limits

Indian Point Units 1 and 2 are presently subject to radioactive waste release specifications that are set forth in Appendix A to Facility Operating Licenses DPR-5 and DPR-26, entitled "Technical Specifications and Bases" (Indian Point Unit No. 2 Technical Specification Section 3.9 "Radioactive Effluents").

## 2. Maximum Permissible Concentrations (MPC)

#### Gaseous Effluents

Concentrations of gaseous discharges in unrestricted areas are computed by producing release rate (Q) and the annual average dispersion factor (X/Q) at the most restrictive site boundary location. The mixture percent of MPC\* is obtained by adding the effects of each nuclide; the effect of each nuclide is, in turn, the quotient of its computed concentration and its MPC.

\* 10 CFR 20 Appendix B Table 2 Col 1 (Pre-1994).

Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

Liquid Effluents

All liquid discharges from Indian Point are made through a common discharge canal with a minimum of 100,000 gpm dilution water. The isotopic content, excluding tritium and dissolved noble gas, of continuous and batch mode discharges of liquid effluent for each calendar quarter has been added and a weighted average fraction of MPC\* has been calculated for this isotopic mixture. The percent of the applicable limit reported in Section C of this document is the percent of MPC concentration of the time-average diluted concentration for each quarter.

The tritium limit has been established in the same manner as the limits for other isotopes in liquid effluents. A derived MPC of  $2x10^{-4}$  uCi/ml for dissolved noble gases has been conservatively adopted for liquid effluents due to the swimming pathway.

\* 10 CFR 20 Appendix B Table 2 Col 2 (Pre-1994).

#### 3. Average Energy

The average energy  $(\bar{E})$ \* of the radionuclide mixture in releases of fission and activation gases for the four quarters in 2001 are provided below:

	1st	2nd	3rd	4th
	Quarter	Quarter	Quarter	Quarter
Beta	0.110	0.120	0.152	0.158
Gamma	0.034	0.034	0.037	0.048

\* Values in Mev/Dis.

## 4. Measurements and Approximations of Total Radioactivity

## a. Fission and Activation Gases

Analysis of effluent gases was performed in compliance with the requirements of Table 4.10-3 of the Technical Specifications. In the case of isolated tanks (batch releases), the total activity discharged was based on an isotopic analysis of each batch and the volume of gas in that batch.

Vapor Containment ventilation discharges have generally been treated as batch releases. At least one complete isotopic concentration analysis of containment air was performed per week. This was applied to gross analysis of the ventilation air

Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

performed prior to each discharge. This information was combined with the volume of air in each discharge to calculate the radionuclide composition of these discharges.

The continuous discharges were based on the isotopic content determined from weekly samples of ventilation air. This information was combined with total air volume discharged by this route. The accumulation of batch and containment ventilation releases was then used to determine total discharges.

#### b.&.c Iodines and Particulates

Iodine-131 and particulate releases are quantified by collecting a continuous sample of ventilation air on a potassium-iodide impregnated activated charcoal cartridge and a glass-fiber filter paper. These samples are obtained as required by Table 4.10-3 of the Technical Specifications. The concentration of isotopes found by analysis of these samples was combined with the volume of air discharged during the sampling period to calculate the amount of activity discharged.

For other iodine isotopes the ratio of each isotope to Iodine-131 was determined by a monthly 24 hour composite sample. This ensures the proper identification of the short-lived I-133 and I-135 isotopes.

## d. Liquid Effluents

A sample of each batch discharge was taken and an isotopic analysis was performed in compliance with the requirements specified in Table 4.10-1 of the Technical Specifications. This isotopic concentration data was combined with information of volume discharged to determine the amount of each isotope discharged in the period.

Samples of continuous discharges have been taken and analyzed in compliance with Table 4.10-1 of the Technical Specifications. This concentration data was combined with the volume discharged to calculate the amount of each isotope discharged.

The above concentrations were used in conjunction with the actual dilution flow to calculate the fraction of maximum permissible concentration.

Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

e. Error Estimates

The total error estimate is the geometric sum of counting uncertainty and sampling uncertainty, expressed as a percent. Sampling uncertainties are considered independent of activity level and largely However, counting uncertainties are fixed in value. activity level dependent. The percent counting uncertainty is the quotient of the 1 sigma (Poisson) uncertainty and the activity measured. This percent uncertainty is maximized at low activity levels, specifically at the lower limit of detection (LLD). It can be shown that the percent uncertainty at LLD is no more than 35%. But as most positive samples are detected at several multiples of LLD, at least, the percent uncertainty is more likely to be in the 8% to 12% range. Adding a consideration of fixed uncertainty of sampling, the total uncertainty is estimated to be 15%.

Re: Indian Point Unit Nos. 1 & 2

Docket Nos. 50-03 & 50-247

#### 5. Batch Releases:

a.	Liquid	1st Qtr.	2nd Qtr.		4th Qtr.
	Number of Batch Releases	41	42	26	17
	Total Time Period of Batch Releases (Minutes)	11700	9720	9340	3330
	Maximum Time Period of Batch Release (Minutes)	1500	455	1870	780
	Average Time Period of Batch Release (Minutes)	286	231	359	196
	Minimum Time Period of Batch Release (Minutes)	37	83	85	77
	Average Stream Flow (cfs) 1999 2000 2001	543	3 194	37 8030 12 1972 52 8475	

(1) This information obtained from the US Department of the Interior, is not available at this time.

b.	Gaseous	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
	Number of Batch Releases	136	134	151	166
	Total Time Period of Batch Releases (Minutes)	141000	147000	148000	154000
	Maximum Time Period of Batch Release(Minutes)	129000	131000	132000	132000
	Average Time Period of Batch R (Minutes)	elease 1040	1100	978	930
	Minimum Time Period of Batch R (Minutes)	elease	1	1 1	1

#### 6. Abnormal Releases

- a. Liquid None
- b. Gaseous None

Re: Indian Point Unit Nos. 1 & 2

Docket Nos. 50-03 & 50-247

## ANNUAL

## EFFLUENT AND WASTE DISPOSAL REPORT

B - GASEOUS EFFLUENTS

2001

ENTERGY NUCLEAR OPERATIONS, INC. INDIAN POINT UNIT NOS. 1 & 2 DOCKET NOS. 50-03 & 50-247 MAY, 2002

Re:

Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

# Entergy Nuclear Operations, Inc. Indian Point Station

2001 EFFLUENT AND WASTE DISPOSAL GASEOUS EFFLUENTS -- SUMMATION OF ALL RELEASES

				1	:		:EST. TOTAL: :ERROR, %:
A. F	ISSION AND ACTIVATION	GASES					
: 1.	TOTAL RELEASE		:	6.55E+00	:	1.09E+01	: 1.50E+01 :
: 2.	AVERAGE RELEASE RATE FOR PERIOD	:UCI/SH	EC:	8.42E-01	: :	1.38E+00	: :
	PERCENT OF TECHNICAL SPECIFICATION LIMIT				: :	1.99E-03	: :
B. I	ODINES						
: 1.	TOTAL IODINE-131	: CI	:	0.00E+00	:	8.31E-07	: 1.50E+01 :
:	AVERAGE RELEASE RATE FOR PERIOD	:UCI/SH	EC:	0.00E+00	: :	1.06E-07	: :
: 3.	PERCENT OF TECHNICAL SPECIFICATION LIMIT	: % :	:		:		:
C. P.	ARTICULATES						
	PARTICULATES WITH HALF-LIVES >8 DAYS						: 1.50E+01 :
: 2. :	AVERAGE RELEASE RATE FOR PERIOD	:UCI/SE	EC:	2.00E-05	:	4.87E-04	:
:		:					: :
	GROSS ALPHA RADIOACTIVITY		: :	2.46E-03	:	2.23E-03	: :
D. T.	RITIUM		- <del></del>				· <del>-</del>
: 1.	TOTAL RELEASE	: CI	:	9.33E-02	:	3.41E-01	: 1.50E+01 :
: 2.	AVERAGE RELEASE RATE FOR PERIOD	:UCI/SE	EC:	1.20E-02	: :	4.33E-02	:
: 3.	PERCENT OF TECHNICAL SPECIFICATION LIMIT	: %	:	2.94E-05	:	1.60E-04	: :

Re:

Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

## EFFLUENT AND WASTE DISPOSAL 2001 ANNUAL REPORT GASEOUS EFFLUENTS FOR ALL RELEASE POINTS

					CONTIN	JOU	s mode		BATCH MODE			
:	NUCLIDES RELEASED	: :	UNITS	: :	QUARTER 1	: :	QUARTER 2	: :	QUARTER 1	:	QUARTER :	
1.	FISSION A	MD	ACTIVA	ATI	ON GASES							
:	нз	:	CI	:	9.33E-02	:	3.41E-01	:	0.00E+00	:	0.00E+00 :	
:	C14	:	CI	:	1.77E+00	:	1.99E+00	:	0.00E+00	:	0.00E+00 :	
:	AR41	:	CI	:	0.00E+00	:	0.00E+00	:	2.66E-02	:	3.58E-03 :	
:	KR85M	:	CI	:	0.00E+00	:	0.00E+00	:	4.47E-05	:	1.32E-04 :	
:	KR85	:	CI	:	0.00E+00	:	0.00E+00	:	5.21E-01	:	9.16E-01 :	
:	KR87	:	CI	:	0.00E+00	:	0.00E+00	:	1.33E-05	:	7.42E-05 :	
:	KR88	:	CI	:	0.00E+00	:	0.00E+00	:	2.81E-05	:	1.88E-04 :	
:	XE131M	:	CI	:	0.00E+00	:	0.00E+00	:	0.00E+00	:	6.38E-06 :	
:	XE133M	:	CI	:	0.00E+00	:	0.00E+00	:	1.02E-04	:	4.94E-05 :	
:	XE133	:	CI	:	0.00E+00	:	0.00E+00	:	4.23E+00	:	7.92E+00 :	
:	XE135M	:	CI	:	0.00E+00	:	0.00E+00	:	2.70E-05	:	6.31E-05 :	
:	XE135	:	CI	:	0.00E+00	:	0.00E+00	:	2.13E-03	:	3.89E-02 :	
:	XE138	:	CI	:	0.00E+00	:	0.00E+00	:	9.99E-06	:	2.81E-05 :	
:	TOTAL FOR PERIOD (ABOVE)	:	CI	:	0.00E+00	:	2.33E+00	:	4.78E+00	:	8.88E+00 :	
					CONTINU	JOU:	S MODE		ВАТСН	M M	ODE	
:	NUCLIDES RELEASED										QUARTER :	
2.	IODINES											
:	I131	:	CI	:	0.00E+00	:	0.00E+00	:	0.00E+00	:	8.31E-07 :	
	TOTAL FOR PERIOD (ABOVE)	:	CI	:	0.00E+00	:	0.00E+00	:	0.00E+00	:	8.31E-07 :	

## EFFLUENT AND WASTE DISPOSAL 2001 ANNUAL REPORT GASEOUS EFFLUENTS FOR ALL RELEASE POINTS

\_\_\_\_\_

					CONTINUOUS MODE				BATCH MODE					
:	NUCLIDES RELEASED	: :	UNITS	: :	QUARTER 1	:	QUARTER 2	: :	QUARTER 1		QUARTER 2	:		
3.	PARTICULA	re:	S											
:	MN54	:	CI	:	0.00E+00	:	0.00E+00	:	0.00E+00	:	3.82E-06	:		
:	CO58	:	CI	:	0.00E+00	:	8.76E-07	:	0.00E+00	:	0.00E+00	:		
:	C060	:	CI	:	1.74E-05	:	6.77E-06	:	0.00E+00	:	0.00 <b>E</b> +00	:		
:	CS137	:	CI	:	1.11E-04	:	6.41E-05	- <i>-</i> -	0.00E+00	:	0.00E+00	:		
:*	TE123M	:	CI	:	0.00E+00	:	0.00E+00	:	0.00E+00	:	6.04E-07	:		
:*	NI63	:	CI	:	6.65E-06	:	1.24E-06	:	0.00E+00	:	0.00E+00	:		
:*	AC228	:	CI	:	0.00E+00	:	3.60E-03	:	0.00E+00	:	0.00E+00	:		
:*	CD109	:	CI	:	0.00E+00	:	5.17E-05	:	0.00E+00	:	0.00E+00	:		
:*	RB88	:	CI	:	0.00E+00	:	0.00E+00	:	2.05E-05	:	8.93E-05	:		
:*	NB95M	:	CI	:	0.00E+00	:	0.00E+00	:	0.00E+00	:	2.09E-06	:		
:*	SN113	:	CI	:	0.00E+00	:	0.00E+00	:	0.00E+00	:	3.38E-07	:		
:*	TI201	:	CI	:	0.00E+00	:	0.00E+00	:	0.00E+00	:	6.80E-06	:		
:*	TI301	:	CI	:	0.00E+00	:	0.00E+00	:	0.00E+00	:	1.13E-06	:		
:*	мв95м	:	CI	:	0.00E+00	:	0.00E+00	:	0.00E+00	:	3.45E-07	:		
:	TOTAL FOR PERIOD (ABOVE)	:	CI	:	1.35E-04	: : :	3.73E-03	:	2.05E-05	: :	1.04E-04	: : : : : : : : : : : : : : : : : : : :		

<sup>\*</sup> DENOTES SUPPLEMENTAL ISOTOPES

Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

EFFLUENT AND WASTE DISPOSAL 2001 ANNUAL REPORT GASEOUS EFFLUENTS -- SUMMATION OF ALL RELEASES

			LL RELEAS			
SSION AND ACTIVATION	GASE	S				
		:	5.51E+01	:	2.83E+02	: 1.50E+01 :
AVERAGE RELEASE	:UCI/					: :
PERCENT OF TECHNICAL SPECIFICATION LIMIT	: % :	: :	1.13E-02	: :	6.30E-02	: : 
DINES						
COTAL IODINE-131	: CI	:	0.00E+00	:	0.00E+00	: 1.50E+01 :
AVERAGE RELEASE RATE FOR PERIOD	:UCI/	SEC:	0.00E+00	: :	0.00E+00	: :
PERCENT OF TECHNICAL SPECIFICATION LIMIT	: % :	:	0.00E+00	:	0.00E+00	: :
RTICULATES						
PARTICULATES WITH HALF-LIVES >8 DAYS	: CI	:	4.20E-04	:	7.68E-02	: 1.50E+01 :
AVERAGE RELEASE RATE FOR PERIOD	:UCI/:	SEC:	5.29E-05	:	9.66E-03	:
PERCENT OF TECHNICAL SPECIFICATION LIMIT	: % :	:	1.91E-06	:	5.40E-06	: :
RADIOACTIVITY	:	:	2.52E-07	:	1.41E-07	:
TIUM						
OTAL RELEASE	: CI	:	1.42E+00		6.40E-01	: 1.50E+01 :
VERAGE RELEASE	:UCI/	SEC:	1.79E-01	:	8.05E-02	
						•
	COTAL RELEASE AVERAGE RELEASE ATE FOR PERIOD  PERCENT OF TECHNICAL SPECIFICATION LIMIT  AVERAGE RELEASE ATE FOR PERIOD  PERCENT OF TECHNICAL SPECIFICATION LIMIT  AVERAGE RELEASE ATE FOR PERIOD  PERCENT OF TECHNICAL SPECIFICATION LIMIT  AVERAGE RELEASE ATE FOR PERIOD  PERCENT OF TECHNICAL SPECIFICATION LIMIT  POTAL RELEASE AVERAGE RELEASE	SSION AND ACTIVATION GASE COTAL RELEASE : CI EXPERAGE RELEASE : UCI/ RATE FOR PERIOD : CERCENT OF TECHNICAL: % COTAL IODINE-131 : CI EXPERAGE RELEASE : UCI/ RATE FOR PERIOD : CERCENT OF TECHNICAL: %	SSION AND ACTIVATION GASES  COTAL RELEASE : CI :  EXPERAGE RELEASE : UCI/SEC: EXATE FOR PERIOD : :  COTAL IODINE-131 : CI :  EXPECIFICATION LIMIT : :  EXPERIENT OF TECHNICAL: % :  EXPECIFICATION LIMIT : :  EXPECTATION LIM	SSION AND ACTIVATION GASES  COTAL RELEASE : CI : 5.51E+01  EVERAGE RELEASE : UCI/SEC: 6.94E+00  EVERCENT OF TECHNICAL: % : 1.13E-02  EVERAGE RELEASE : UCI/SEC: 0.00E+00  EVERCENT OF TECHNICAL: % : 0.00E+00  EVERCENT OF TECHNICAL: % : 0.00E+00  EVERCENT OF TECHNICAL: % : 0.00E+00  EVERAGE RELEASE : UCI/SEC: 5.29E-05  EVERAGE RELEASE : UCI/SEC: 5.29E-07  EVERAGE RELEASE : UCI/SEC: 5.29E-07  EVERAGE RELEASE : UCI/SEC: 1.79E-01  EVERAGE RELEASE : UCI/SEC: 1.79E-01  EVERAGE RELEASE : UCI/SEC: 1.79E-01  EVERAGE RELEASE : UCI/SEC: 1.79E-01	### ### ### ### ### ### ### ### ### ##	COTAL RELEASE : CI : 5.51E+01 : 2.83E+02 EXPERAGE RELEASE : UCI/SEC: 6.94E+00 : 3.56E+01 EXATE FOR PERIOD : : :  CPERCENT OF TECHNICAL: % : 1.13E-02 : 6.30E-02 EXPECIFICATION LIMIT : : : : : :  COTAL IODINE-131 : CI : 0.00E+00 : 0.00E+00 EXPERAGE RELEASE : UCI/SEC: 0.00E+00 : 0.00E+00 EXPERIOD : : : :  CPERCENT OF TECHNICAL: % : 0.00E+00 : 0.00E+00 EXPECIFICATION LIMIT : : : : : : : : : : : : : : : : : : :

Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

EFFLUENT AND WASTE DISPOSAL 2001 ANNUAL REPORT GASEOUS EFFLUENTS FOR ALL RELEASE POINTS

				CONTINU	JOU	S MODE		BATCH MODE			
NUCLIDES RELEASED	:	UNITS	: :	QUARTER 3	:	QUARTER 4	:	QUARTER 3	:	QUARTER 4	
FISSION A	ND	ACTIVA	ΙΤŁ	ON GASES							
Н3	:	CI	:	1.42E+00	:	6.40E-01	:	0.00E+00	:	0.00E+00	
C14	:	CI	:	1.99E+00	:	1.99E+00	:	0.00E+00	:	0.00E+0	
AR41	:	CI	:	0.00E+00	:	1.65E-05	:	1.39E-02	:	4.52E-02	
KR85M	:	CI	:	0.00E+00	:	1.64E-05	:	1.40E-03	:	3.31E-01	
KR85	:	CI	:	0.00E+00	:	0.00E+00	:	1.07E+01	:	3.88E+01	
KR87	:	CI	:	0.00E+00	:	0.00E+00	:	1.58E-04	:	3.66E-04	
KR88	:	CI	:	0.00E+00	:	0.00E+00	:	5.08E-04	:	9.94E-02	
XE131M	:	CI	:	0.00E+00	:	0.00E+00	:	1.14E-01	:	9.93E-01	
XE133M	:	CI	:	0.00E+00	;	0.00E+00	:	2.33E-01	:	3.31E+0	
XE133	:	CI	:	0.00E+00	:	1.27E+01	:	4.16E+01	:	2.14E+02	
XE135M	:	CI	:	0.00E+00	:	0.00E+00	:	6.58E-05	:	1.60E-04	
XE135	:	CI	:	0.00E+00	:	2.42E-04	:	4.15E-01	:	1.10E+01	
XE138	:	CI	:	0.00E+00	:	0.00E+00	:	3.48E-05	:	5.69E-05	
TOTAL FOR PERIOD (ABOVE)	:	CI	: : :	3.41E+00	:	1.53E+01	:	5.32E+01	:	2.69E+02	
				CONTINU	JOU	S MODE		ВАТСН	I M	ODE	
NUCLIDES RELEASED			:	QUARTER 3	: :	QUARTER 4	: :	QUARTER 3	:	QUARTER 4	
IODINES											
TOTAL FOR PERIOD (ABOVE)	:	CI	: :	0.00E+00	:	0.00E+00	:	0.00E+00	:	0.00E+00	

Re: Indian Point Unit Nos. 1 & 2

Docket Nos. 50-03 & 50-247

\_\_\_\_\_

EFFLUENT	T AND	WASTE	DIS	SPOSZ	$^{1}\Gamma$	2001	ANNUAL	REPORT
GASEOUS	EFFLU	JENTS	FOR	ALL	RE	ELEASE	E POINTS	3

\_\_\_\_\_

					CONTIN	S MODE	BATCH MODE					
:	NUCLIDES RELEASED	: :	UNITS		~		QUARTER 4	: :	QUARTER 3	: :	QUARTER 4	:
3.	PARTICULA	re:	S									
:	MN54	:	CI	:	0.00E+00	:	6.32E-06	:	0.00E+00	:	0.00E+00	:
:	CO58	:	CI	:	4.12E-06	:	1.30E-05	:	0.00E+00	:	0.00E+00	:
:	C060	:	CI	:	0.00E+00	:	8.10E-06	:	0.00E+00	:	0.00E+00	:
:	CS137	:	CI	:	1.44E-05	:	2.38E-05		0.00E+00	:	0.00E+00	:
:*	NI63	:	CI	:	9.96E-07	:	5.05E-07	:	0.00E+00	:	0.00E+00	:
:*	AC228	:	CI	:	2.22E-04	:	0.00E+00	:	0.00E+00	:	0.00E+00	:
:*	RB88	:	CI	:	0.00E+00	:	0.00E+00	:	1.79E-04	:	7.68E-02	:
:	TOTAL FOR PERIOD (ABOVE)	:	CI	:	2.41E-04	:	5.17E-05	:	1.79E-04	:	7.68E-02	:

<sup>\*</sup> DENOTES SUPPLEMENTAL ISOTOPES

Re: Indian Point Unit Nos. 1 & 2

Docket Nos. 50-03 & 50-247

#### ANNUAL

## EFFLUENT AND WASTE DISPOSAL REPORT

C - LIQUID EFFLUENTS

2001

Re: Indian Point Unit Nos. 1 & 2

Docket Nos. 50-03 & 50-247

#### Entergy Nuclear Operations, Inc. Indian Point Station

EFFLUENT AND WASTE DISPOSAL 2001 ANNUAL REPORT LIQUID EFFLUENTS -- SUMMATION OF ALL RELEASES

: UNITS : QUARTER : QUARTER :EST. TOTAL: : 1 : 2 : ERROR, %: A. FISSION AND ACTIVATION PRODUCTS \_\_\_\_\_ : 1. TOTAL RELEASE (EXCL.: CI : 1.54E-01 : 1.03E-01 : 1.50E+01 : TRIT., GASES, ALPHA): : : 2. AVERAGE DILUTED : UCI/ML : 4.74E-10 : 2.92E-10 : CONC. DURING PERIOD : : \_\_\_\_\_ : 3. PERCENT OF : % : 1.11E-03 : 8.17E-04 : APPLICABLE LIMIT : : : : : : B. TRITTUM : CI : 8.89E+01 : 1.14E+01 : 1.50E+01 : : 1. TOTAL RELEASE : 2. AVERAGE DILUTED : UCI/ML : 2.73E-07 : 3.23E-08 : CONC. DURING PERIOD : : \_\_\_\_\_ : 3. PERCENT OF : % : 2.95E-03 : 3.61E-04 : APPLICABLE LIMIT : C. DISSOLVED AND ENTRAINED GASES : CI : 3.46E-05 : 0.00E+00 : 1.50E+01 : : 1. TOTAL RELEASE : 2. AVERAGE DILUTED : UCI/ML : 1.06E-13 : 0.00E+00 : CONC. DURING PERIOD : : : 3. PERCENT OF : % : 5.32E-08 : 0.00E+00 : APPLICABLE LIMIT : D. GROSS ALPHA RADIOACTIVITY : CI : 0.00E+00 : 4.33E-05 : 5.00E+01 : : 1. TOTAL RELEASE E. VOLUME WASTE RELEASED :LITERS : 6.46E+07 : 5.91E+07 : 1.00E+01 : : (PRIOR TO DILUTION) : : : F. VOLUME DILUTION WATER :LITERS : 3.26E+11 : 3.52E+11 : 1.00E+01 : : USED DURING PERIOD : : :

Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

CONTINUOUS MODE

\_\_\_\_\_\_

BATCH MODE

	NUCLIDES RELEASED	:		: 	1 	:	2 	:	1	:		:
:	нз										1.13E+01	:
:	CR51	:	CI	:	0.00E+00	:	0.00E+00	:	8.96E-04	:	0.00E+00	:
:	MN54	:	CI	:	0.00E+00	:	0.00E+00	:	8.87E-04	:	6.42E-03	:
:	FE55	:	CI	:	0.00E+00	:	0.00E+00	:	0.00E+00	:	4.03E-03	:
:	FE59	:	CI	:	0.00E+00	:	0.00E+00	:	4.74E-07	:	0.00E+00	:
:	CO58	:	CI	:	8.06E-04	:	0.00E+00	:	3.34E-03	:	5.57E-03	:
:	C060	:	CI	:	5.71E-04	:	3.51E-04	:	6.63E-03	:	1.63E-02	:
:	NI63	:	CI	:	0.00E+00	:	6.12E-03	:	9.67E-03	:	1.81E-03	:
:	ZN65	:	CI	:	0.00E+00	:	0.00E+00	:	4.15E-05	:	0.00E+00	:
:	SR89	:	CI	:	0.00E+00	:	0.00E+00	:	5.99E-05	:	0.00E+00	:
:	SR90	;	CI	:	1.06E-03	:	9.96E-04	:	4.77E-04	:	4.22E-04	:
:	NB95	:	CI	:	0.00E+00	:	0.00E+00	:	4.49E-05	:	0.00E+00	:
:	AG110M	:	CI	:	0.00E+00	:	0.00E+00	:	3.55E-04	:	0.00E+00	:
:	CS134	:	CI	:	0.00E+00	:	0.00E+00	:	3.32E-03	:	1.56E-03	:
:	CS137	:	CI	:	4.08E-02	:	6.77E-03	:	5.94E-02	:	4.78E-02	:
:*	SB124	:	CI	:	0.00E+00	:	0.00E+00	:	1.52E-03	:	0.00E+00	:
	FLUENT AND QUID EFFLUE							RT				
<del>-</del>					CONTIN	JOU:	S MODE		BATCI	H M	ODE	
:	NUCLIDES RELEASED				1	:	2					
LI	QUID EFFLU	 ENT	s (CON	TD)								
:*	SB125	:	CI	:	0.00E+00	:	0.00E+00	:	2.43E-02	:	4.37E-03	:
:*	TE123M	:	CI	:	0.00E+00	:	0.00E+00	:	4.22E-05	:	0.00E+00	:
:*	C057	:	CI	:	0.00E+00	:	0.00E+00	:	1.00E-04	:	2.63E-04	:

Re: Indian Point Unit Nos. 1 & 2

Docket Nos. 50-03 & 50-247

:*	SB122	:	CI	:	0.00E+00	:	0.00E+00	:	1.02E-05	:	0.00E+00	:
:*	GAPLHA	:	CI	:	0.00E+00	 :	1.45E-04	:	0.00E+00	:	0.00E+00	:
:	TOTAL FOR PERIOD (ABOVE)	-	CI	: : :	1.59E-01	:	6.51E-02	:	8.89E+01	: : :	1.14E+01	:
_	CONTINUOUS MODE								BATC	H M	ODE	
:	NUCLIDES RELEASED	:	UNITS	:	QUARTER 1	:	QUARTER 2	:	QUARTER 1	:	QUARTER 2	:

<sup>\*</sup> DENOTES SUPPLEMENTAL ISOTOPES

Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

EFFLUENT AND WASTE DISPOSAL 2001 ANNUAL REPORT

EFFLUENT AND WASTE DISPOS	ATION OF	AL		S		
	: UNITS	 : :	QUARTER 3	 : :	QUARTER 4	:EST. TOTAL:
A. FISSION AND ACTIVATION	N PRODUC'	rs				
: 1. TOTAL RELEASE (EXCL. : TRIT., GASES, ALPHA)	: CI	:	5.73E-02	:	4.86E-02	: 1.50E+01 :
: 2. AVERAGE DILUTED : CONC. DURING PERIOD	:UCI/ML	:	1.37E-10	:	1.19E-10	:
: 3. PERCENT OF : APPLICABLE LIMIT	: %	:		:		:
B. TRITIUM						
: 1. TOTAL RELEASE		:	2.63E+01	:	3.33E+01	: 1.50E+01 :
: 2. AVERAGE DILUTED : CONC. DURING PERIOD	:UCI/ML :	:		:		: 
: 3. PERCENT OF : APPLICABLE LIMIT	: % :	•		: :	9.15E-04	: :
C. DISSOLVED AND ENTRAINE						
: 1. TOTAL RELEASE	: CI			:	4.01E-02	: 1.50E+01 :
: 2. AVERAGE DILUTED : CONC. DURING PERIOD	:UCI/ML					: :
: 3. PERCENT OF : APPLICABLE LIMIT	: % :	:	0.00E+00	: :		: : 
D. GROSS ALPHA RADIOACTIV	/ITY					
: 1. TOTAL RELEASE				:	2.35E-05	: 5.00E+01 :
E. VOLUME WASTE RELEASED: (PRIOR TO DILUTION)						
F. VOLUME DILUTION WATER : USED DURING PERIOD	:LITERS	:	4.19E+11			

Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

\_\_\_\_\_

## EFFLUENT AND WASTE DISPOSAL 2001 ANNUAL REPORT LIQUID EFFLUENTS FOR ALL RELEASE POINTS

.. \_\_\_\_\_\_\_

					CONTINUOUS MODE				ватсн м	IODE
:	NUCLIDES RELEASED	:	UNITS	 : :	QUARTER 3	 : :	QUARTER 4	 : :	QUARTER :	QUARTER :
 :	н3	 :	CI	 :	1.26E-01	 :	1.34E-01	 :	2.62E+01 :	3.32E+01 :
:	NA24	:	CI	:	0.00E+00	:	0.00E+00	:	0.00E+00 :	8.04E-05 :
:	CR51	:	CI	:	0.00E+00	:	0.00E+00	:	0.00E+00 :	5.83E-05 :
:	MN54	:	CI	:	0.00E+00	:	0.00E+00	:	5.43E-04 :	1.09E-04 :
:	FE55	:	CI	:	0.00E+00	:	0.00E+00	;	1.38E-04 :	1.44E-03 :
:	CO58	:	CI	:	0.00E+00	:	0.00E+00	:	2.50E-04 :	1.22E-03 :
:	CO60	:	CI	:	0.00E+00	:	0.00E+00	:	4.32E-03 :	6.19E-03 :
:	NI63	:	CI	:	3.19E-03	:	6.17E-03	:	6.87E-03 :	7.26E-03 :
:	SR89	:	CI	:	0.00E+00	:	0.00E+00	:	3.68E-05 :	0.00E+00 :
:	SR90	:	CI	:	4.31E-04	:	4.75E-04	:	6.43E-04 :	6.57E-04 :
:	AG110M	:	CI	:	0.00E+00	:	0.00E+00	:	0.00E+00 :	2.33E-04 :
:	I131	:	CI	:	0.00E+00	:	0.00E+00	:	0.00E+00 :	7.55E-05 :
:	CS134	:	CI	:	0.00E+00	:	0.00E+00	:	4.57E-05 :	0.00E+00 :
:	CS137	:	CI	:	1.98E-03	:	7.61E-04	:	3.67E-02 :	8.96E-03 :
:	BA140	:	CI	:	0.00E+00	:	1.01E-03	:	3.14E-05 :	0.00E+00 :
:*	SB124	:	CI	:	0.00E+00	:	0.00E+00	:	0.00E+00 :	2.84E-03 :
	FLUENT AND QUID EFFLUI									
				. <b>.</b>	CONTINU	JOU:	S MODE		BATCH M	ODE
:	NUCLIDES RELEASED			:		:	QUARTER 4	:	QUARTER :	QUARTER:

Re: Indian Point Unit Nos. 1 & 2

Docket Nos. 50-03 & 50-247

LIQUID EFFLUI	EN'	rs (coi	1TD	)							_
:* SB125	:	CI	:	0.00E+00	:	0.00E+00	:	2.16E-03	:	1.09E-02	:
:* CO57	:	CI	:	0.00E+00	:	0.00E+00	:	2.57E-05	:	0.00E+00	:
:* SB122	:	CI	:	0.00E+00	:	0.00E+00	:	0.00E+00	:	1.70E-04	:
: TOTAL FOR : PERIOD : (ABOVE)	:	CI	: : :	1.31E-01	: : :	1.42E-01	:	2.63E+01	:	3.33E+01	:
CONTINUOUS MODE BATCH MODE											
				COMITING	000	S MODE		DAICE	1 141	ODE	
: NUCLIDES : RELEASED	 : :	UNITS	:			S MODE  QUARTER 4	:		:	QUARTER 4	:
	· : ·		:	QUARTER	: :	QUARTER 4	:	QUARTER	:	QUARTER	:
: RELEASED	: 		:	QUARTER 3	:	QUARTER 4	: :	QUARTER 3	:	QUARTER 4	_
: RELEASED : :* XE133	: 	CI	:	QUARTER 3 0.00E+00	:	QUARTER 4 0.00E+00	:	QUARTER 3 0.00E+00	:	QUARTER 4 2.37E-02 1.45E-03	:
: RELEASED :* XE133 :* XE131M	: 	CI	:	QUARTER 3 0.00E+00	:	QUARTER 4 0.00E+00 0.00E+00	:	QUARTER 3 0.00E+00	:	QUARTER 4 2.37E-02 1.45E-03	:

<sup>\*</sup> DENOTES SUPPLEMENTAL ISOTOPES

Re: Indian Point Unit Nos. 1 & 2

Docket Nos. 50-03 & 50-247

#### ANNUAL

## EFFLUENT AND WASTE DISPOSAL REPORT

D - SOLID WASTE

2001

Re: Indian Point Unit Nos. 1 & 2

Docket Nos. 50-03 & 50-247

Solid Radwaste Disposal Report 2001. Solid Radwaste Shipped Offsite for Burial, Reprocessing, or Disposal (No irradiated fuel).

#### 12 MONTH PERIOD

1.	Type of Waste	<u>Units</u> <u>Class A</u>		<u>Class B</u>	Class C	Error, %	
	a. Spent Resins sludges, etc			6.8 412.0	3.4 115.0	± 10- 25	
	b. DAW	m³ Ci	401.6 6.04	3.4 17.0	0 0	± 10- 25	
	c. Irradiated components control rods		0 0	0 0	0 0	± 10- 25	

Measurement of major nuclide composition in percent (by type of waste).
 Resins, Filters, Sludges, etc.

Class A		
Isotope	mCi	Percent
Н-3	1.49E+01	2.00E+00
Mn-54	2.42E+01	3.25E+00
Fe-55	6.44E+01	8.66E+00
Co-57	1.03E+00	1.39E-01
Co-58	1.58E+01	2.13E+00
Co-60	7.90E+01	1.06E+01
Ni-63	1.80E+02	2.42E+01
Sr-90	2.10E+01	2.82E+00
Ag-110m	3.23E-01	4.34E-02
Sb-124	3.89E+00	5.23E-01
Sb-125	1.04E+01	1.40E+00
Cs-134	6.27E+01	8.43E+00
Cs-137	1.83E+02	2.46E+01
Ce-144	6.56E+01	8.82E+00
Pu-238	3.86E-01	5.19E-02
Pu-239	1.51E-01	2.03E-02
Pu-241	1.67E+01	2.25E+00

Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

Resins, Filters, Sludges, etc. (Cont'd)

Class B		
Isotope	mCi	Percent
C-14	2.04E+02	4.95E-02
Fe-55	2.32E+04	5.63E+00
Co-60	1.04E+05	2.53E+01
Ni-63	2.12E+05	5.14E+01
Sr-90	2.43E+02	5.89E-02
Cs-134	1.45E+04	3.52E+00
Cs-137	5.80E+04	1.41E+01

Class C		
Isotope	mCi	Percent
H-3	5.29E+02	4.62E-01
C-14	6.96E-01	6.07E-04
Fe-55	2.08E+04	1.81E+01
Co-60	4.79E+04	4.18E+01
Ni-59	7.20E+02	6.28E-01
Ni-63	1.77E+04	1.54E+01
Sr-90	1.33E+00	1.16E-03
Tc-99	5.22E+01	4.55E-02
Cs-137	2.69E+04	2.35E+01
Pu-238	1.87E+00	1.63E-03
Pu-239	1.42E+00	1.24E-03
Am-241	3.69E+00	3.22E-03
Cm-242	1.53E+00	1.33E-03
Cm-243	1.57E+00	1.37E-03

Re:

May, 2002 Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

DAW

Class A	N. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	
Isotope	mCi	Percent
Н-3	1.17E+01	1.94E-01
Cr-51	1.06E+00	1.75E-02
Mn-54	3.59E+01	5.94E-01
Fe-55	5.25E+02	8.69E+00
Co-58	4.67E+01	7.72E-01
Co-60	1.43E+03	2.36E+01
Ni-63	1.38E+03	2.29E+01
Zn-65	1.11E+02	1.84E+00
Sr-90	3.00E+01	4.97E-01
Tc-99	1.32E+00	2.19E-02
Ag-110m	7.37E-02	1.22E-03
Sb-124	7.41E-02	1.23E-03
Sb-125	1.12E+01	1.85E-01
Cs-134	1.04E+02	1.73E+00
Cs-137	2.34E+03	3.87E+01
Ce-144	4.44E+00	7.35E-02
Pu-238	1.25E-01	2.07E-03
Pu-239	6.52E-02	1.08E-03
Pu-241	1.14E+01	1.89E-01
Am-241	2.65E-02	4.38E-04
Cm-243	1.06E-02	1.75E-04

Re: Indian Point Unit Nos. 1 & 2

Docket Nos. 50-03 & 50-247

DAW (Cont'd)

Class B		
Isotope	mCi	Percent
H-3	4.29E+01	2.52E-01
Fe-55	6.73E+01	3.96E-01
Co-58	3.68E+01	2.16E-01
Co-60	4.67E+03	2.75E+01
Ni-63	7.25E+02	4.26E+00
Sr-90	3.49E+00	2.05E-02
Tc-99	9.39E+00	5.52E-02
Cs-134	7.55E+01	4.44E-01
Cs-137	1.13E+04	6.64E+01
Ce-144	7.47E+01	4.39E-01
Am-241	1.88E-01	1.11E-03
Cm-243	7.51E-02	4.42E-04

#### 3. Solid Waste Disposition

Number of	Mode of Transport	Destination
Shipments		
1	Cask, Hittman Transport	Chem-Nuclear Consolidation
		Facility
1	Van / Flat Bed, Hittman Transport	Diversified Scientific Services
		Inc.
7	Van / Flat Bed, Hittman Transport	GTS Duratek Inc. (GIC)
19	Van / Flat Bed, Hittman Transport	GTS Duratek Inc.
4	Cask, Hittman Transport	Studsvik Processing Facility

#### 4. Solid Waste Containers

- a. 8-120 High Integrity Container 120.3 cubic ft.
- b. 14-215 High Integrity Container 215 cubic ft.
- c. 55 gallon drum 7.5 cubic ft.

During 2001 two (2) Type B containers were used for the shipment of two (2) 8-120 liners in an 8-120 Type B shipping cask. All others were LSA.

No solidification agents or absorbents were used.

Note: Waste characterization and classification is determined using the Radman Software Program.

Re: Indian Point Unit Nos. 1 & 2

Docket Nos. 50-03 & 50-247

#### ANNUAL

#### EFFLUENT AND WASTE DISPOSAL REPORT

E - RADIOLOGICAL IMPACT ON MAN

2001

Indian Point Unit Nos. 1 & 2 Re: Docket Nos. 50-03 & 50-247

#### RADIOLOGICAL IMPACT EVALUATION

Doses from gaseous immersion, inhalation, ground deposition, and vegetation ingestion were evaluated for the nearest residence likely to be occupied in the critical sector for each pathway and were combined to provide a conservative determination of the maximum individual offsite radiation dose from these pathways. Calculations were performed for members of the public on site for this reporting period. To this end, it is assumed that members of the public on-site are exposed 2 hours per year. Based on an assumed onsite location most likely to be occupied, a gaseous effluent dispersion factor is obtained. The dose is then computed with consideration for the total effluents released, the on-site dispersion factor and the exposure time. Doses to such individuals were found to be significantly less than one percent of the maximum individual offsite dose. Doses were also evaluated for all sectors assuming an individual ingesting milk and meat from a cow located at 5.0 mile distance. In all cases these evaluations were performed using the models presented in Regulatory Guide 1.109.

All releases were evaluated using actual meteorological conditions existing during the release period.

Integrated dose from the population within 50 miles of Indian Point from gaseous effluents were computed based on the most current population data.\*

Dose calculations for liquid pathways to individuals and populations are computed for a year. The MIDAS computer program that is utilized for these calculations incorporated the calculation model and parameters that are presented in Regulatory Guide 1.109.

The fish, invertebrate, algae, drinking, shoreline, swimming and boating pathways are calculated for the adult, teenager, child and infant. These calculations are performed for reasons such as estimating the population water consumption dose, the population recreation dose, and cost-benefit analysis.

NUREG-0017, "Calculation of Release of Radioactive Materials in Gaseous and Liquid Effluents from Pressurized Water Reactors", assumes an annual release of 8.0 Ci/yr of Carbon-14. Therefore, to be consistent with NUREG-0017, a release of 7.6 Curies of Carbon-14 was assumed for the year, (adjusted for actual power operating capacity) in addition to the radioactive materials measured in Indian Point's gaseous effluents.

This impact evaluation demonstrates that the dose commitment to man from the operation of Indian Point Unit Nos. 1 and 2 is negligible, and is well below the levels set forth in 10 CFR 20, 10 CFR 50, and the Indian Point Unit Nos. 1 and 2 Technical Specifications.

Population data was based on the 1990 census.

NL-02-065 May, 2002 Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

2001

#### INDIAN POINT UNITS 1 AND 2

#### RADIOLOGICAL IMPACT ON MAN\*

(Reference Regulatory Guide 1.21, Page 12)

#### A. Maximum Individual Doses

(1)	Pathways (Gaseous)  a) Nobel Gas Immersion	Total Body millirem 5.50E-3	Skin millirem 1.73E-2	Thyroid millirem N/A	Bone millirem N/A
	b) Inhalation	2.82E-2	N/A	2.82E-2	1.43E-1
	c) Ground Deposition	1.03E-2	1.21E-2	1.03E-2	1.03E-2
	d) Milk Ingestion	7.66E-2	N/A	7.65E-2	3.58E-1
	e) Meat Ingestion	1.18E-2	N/A	1.18E-2	5.88E-2
	f) Vegetable Ingestion	2.23E-1	N/A	2.23E-1	1.12E+0

(2) Pathways (Liquid)

J

NL-02-065 May, 2002 Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

Maximum Dose to Individuals 2001 millirem:

	BONE	LIVER	TOTAL BODY	THYROID	KIDNEY	LUNG	GI	SKIN
Shore Exposure								
ADULT TEEN CHILD	5.90E-04 7.80E-04 1.58E-04	5.90E-04 7.80E-04 1.58E-04	5.90E-04 7.80E-04 1.58E-04	5.90E-04 7.80E-04 1.58E-04	5.90E-04 7.80E-04 1.58E-04	5.90E-04 7.80E-04 1.58E-04	5.90E-04 7.80E-04 1.40E-04	6.80E-04 9.10E-04 1.94E-04
Fresh Water Spor	ct Fish							
ADULT TEEN CHILD	1.79E-02 1.79E-02 2.07E-02	1.66E-02 1.78E-02 1.64E-02	1.21E-02 7.00E-03 3.22E-03	2.83E-04 4.60E-05 3.90E-05	5.70E-03 6.00E-03 5.20E-03	1.92E-03 2.30E-03 1.90E-03	1.00E-03 7.30E-04 2.92E-04	0.00E+00 0.00E+00 0.00E+00
Fresh Water Inve	ertebrate							
ADULT TEEN CHILD	6.30E-03 5.90E-03 6.90E-03	6.90E-03 7.00E-03 6.20E-03	3.99E-03 2.70E-03 1.71E-03	1.32E-05 1.01E-05 8.80E-06	2.25E-03 2.26E-03 1.92E-03	4.80E-04 5.80E-04 4.80E-04	9.11E-03 6.04E-03 1.99E-03	0.00E+00 0.00E+00 0.00E+00
Total All Pathwa	ays							
ADULT TEEN CHILD	2.40E-02 2.49E-02 2.78E-02	2.49E-02 2.51E-02 2.25E-02	1.67E-02 1.05E-02 5.20E-03	6.60E-04 8.40E-04 2.09E-04	8.50E-03 9.00E-03 7.30E-03	2.97E-03 3.72E-03 2.56E-03	1.07E-02 7.49E-03 2.50E-03	6.80E-04 9.10E-04 1.94E-04

N/A = Not Applicable

<sup>\*</sup> See analogous Entergy Effluent report for Indian Point Unit No. 3 to calculate a combined dose to the public.

Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

2001

## B. Population

(1)	Pathways (Gaseous)		
		Total Body (Man-rem)	Thyroid* (Man-rem)
a)	Nobel Gas Immersion	7.1E-01	7.1E-01
b	) Inhalation	9.4E-01	9.4E-01
c)	Ground Deposition	7.2E-02	7.2E-02
d)	Totals	1.7E+00	1.7E+00

<sup>\*</sup> The thyroid values consist of a sum of total body and thyroid.

#### (2)

Pathways (Liquid) Liquid Population Dose 2001 Person-rem:

	Shore Exposure	Fresh Water Sport Fish Ingestion	Commercial Fish Ingestion	Fresh Water Invertebrate Ingestion
Bone	0.14	6.50E-02	1.10E-01	1.20E-02
Liver	0.14	6.10E-02	1.00E-01	1.20E-02
Total Body	0.14	3.60E-02	6.10E-02	6.30E-03
Thyroid	0.14	1.90E-04	3.20E-04	2.20E-05
Kidney	0.14	2.00E-02	3.50E-02	3.90E-03
Lung	0.14	7.10E-03	1.20E-02	9.10E-04
GI	0.14	3.00E-03	5.10E-03	1.40E-02
Skin	0.16	0	0	0

## Average Dose to Individuals

#### (1)Pathways

- a) Liquid-Total Body 1.55E-5 millirem
- b) Gaseous-Total Body 1.10E-7 millirem

NL-02-065 May, 2002 Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JAN/FEB/MAR 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: A

	WIND SPEED	(MPH)						
WIND FROM	CALMS			7.50 - 12.50		18.50 -		TOTAL
N NNE NE ENE	.0		. 0 . 0 . 0	1.0	.0	.0	.0	5.0 1.0 .0
E ESE SE SSE	. 0 . 0 . 0	.0 .0 .0	.0 .0 .0 5.0	.0	.0 .0 .0	.0		.0 .0 .0 5.0
s ssw sw wsw	.0.0.0	.0 .0 .0	.0	1.0 3.0 .0	.0		.0	1.0 3.0 2.0 .0
W WNW NNW	.0 .0 .0	.0 .0 .0		5.0 18.0	.0	.0 .0 .0	.0	4.0 20.0 31.0 9.0
TOTAL	.0	.0	42.0	39.0	.0	.0	.0	81.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 10.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 14 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2146								

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

NL-02-065 May, 2002 Re: Indian Point Unit Nos. 1 & 2

Docket Nos. 50-03 & 50-247

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JAN/FEB/MAR 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: B

	WIND SPEED	(MPH)						
WIND FROM	CALMS		3.50 - 7.50			18.50 -		TOTAL
N NNE NE ENE	.0	.0	5.0 .0 .0	.0	.0	.0	.0 .0 .0	.0
E ESE SE SSE	.0 .0 .0	. 0 . 0 . 0	.0 .0 .0 3.0		.0	.0	.0 .0 .0	.0
S SSW SW WSW	.0 .0 .0	.0 .0 .0	2.0		.0 .0 .0		.0 .0 .0	
W WNW NW NNW			2.0 5.0 4.0 9.0		.0 2.0	.0 .0 .0	.0	10.0
TOTAL	.0	.0	32.0	17.0	3.0	.0	.0	52.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 10.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
	G OBS. DURIN OBSER. DURIN					14 2146		

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

NL-02-065 May, 2002 Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JAN/FEB/MAR 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: C

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 - 24.00		TOTAL
N NNE NE ENE	.0	.0	15.0 1.0 .0		2.0 .0 .0			24.0 4.0 .0
E ESE SE SSE	.0.0.0	.0 .0 .0	.0 .0 .0 5.0	.0 .0 .0	.0	.0 .0 .0	.0 .0 .0	.0 .0 .0 6.0
S SSW SW WSW	.0 .0 .0	.0		5.0 1.0 .0		.0		2.0
W WNW NW NNW	.0	.0 .0 1.0 1.0			1.0	.0 .0 .0	.0 .0 .0	5.0 4.0 25.0 14.0
TOTAL	.0	3.0	56.0	38.0	3.0	.0	.0	100.0
	EASUREMENT H ATURE SENSOR					10.00 50.90		
	IG OBS. DURIN OBSER. DURIN							

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

NL-02-065 May, 2002 Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JAN/FEB/MAR 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: D

	WIND SPEED	(MPH)						
WIND FROM	CALMS				12.50 -	18.50 - 24.00		TOTAL
N NNE NE ENE	.0	32.0	89.0 17.0	37.0		.0	.0	236.0 160.0 36.0 7.0
E ESE SE SSE	.0		6.0 4.0 1.0 22.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	13.0 10.0 10.0 55.0
S SSW SW WSW				5.0 2.0 3.0 1.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	61.0 32.0 27.0 14.0
W WNW NW NNW	.0	11.0 8.0	36.0 57.0 118.0 84.0	25.0 95.0	.0 .0 1.0	.0 .0 .0	.0	48.0 93.0 222.0 115.0
TOTAL	. 0	244.0	625.0	256.0	14.0	.0	.0	1139.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 10.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

MISSING OBS. DURING THIS PERIOD (ALL STABILITIES)

VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

14

2146

NL-02-065 May, 2002 Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JAN/FEB/MAR 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY:

	WIND SPEED	(MPH)						
WIND FROM	CALMS				12.50 - 18.50			TOTAL
N NNE NE ENE	.0	25.0 54.0 38.0	16.0 27.0 22.0 2.0	.0	.0	.0	.0	
E ESE SE SSE		17.0 9.0 14.0 32.0	.0 .0 .0 8.0	.0	.0	.0 .0 .0		17.0 9.0 14.0 40.0
s ssw sw wsw	. 0	33.0 20.0	37.0 6.0 5.0 11.0	.0	.0 .0 .0	.0	.0 .0 .0	76.0 39.0 25.0 25.0
W WNW NW NNW	. 0 . 0	8.0 5.0	14.0 21.0 13.0 13.0	4.0 3.0	.0			23.0 33.0 21.0 20.0
TOTAL	.0	336.0	195.0	14.0	.0	.0	.0	545.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 10.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 14								

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: F

	WIND SPEED	(MPH)						
WIND FROM	CALMS				18.50	18.50 - 24.00	80.00	TOTAL
N NNE NE ENE	. 0 . 0 . 0	13.0 27.0 21.0		.0		.0		47.0
e ese se sse	.0	4.0 3.0 2.0 15.0	.0	.0	.0 .0 .0	.0 .0 .0	.0	
s ssw sw wsw	.0	11.0	4.0 .0 2.0 .0	.0			.0 .0 .0	11.0
W WNW NW NNW	. 0 . 0		.0 .0 1.0	.0	.0 .0 .0		.0	1.0 1.0 4.0 4.0
TOTAL	. 0	134.0	59.0	.0	.0	.0	.0	193.0
	EASUREMENT H ATURE SENSOR					10.00 50.90		
	G OBS. DURIN OBSER. DURIN							

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: G

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 - 24.00		TOTAL
N NNE NE ENE	. 0 . 0	3.0	.0 6.0 4.0	.0	.0	.0		3.0 10.0 7.0 4.0
e ese se sse	.0 .0 .0	.0 1.0 1.0 4.0	.0 1.0 .0	.0 .0 .0	.0 .0 .0	.0	.0 .0 .0	.0 2.0 1.0 4.0
s ssw sw wsw	.0 .0 .0	.0 .0 .0	.0.0	.0	.0	.0	.0 .0 .0	
MNM MNM MNM		1.0 1.0 .0 3.0	. 0 . 0 . 0	.0 .0 .0		.0 .0 .0		
TOTAL	.0	25.0	11.0	.0	.0	.0	.0	36.0
	EASUREMENT H ATURE SENSOR			•		10.00 50.90		
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 14 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2146								

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: ALL

	WIND SPEED	(MPH)						
WIND FROM	CALMS				18.50	18.50 - 24.00		TOTAL
N NNE NE ENE	. 0 . 0	117.0 79.0	147.0	$\frac{41.0}{2.0}$	2.0	.0	.0 .0	332.0 307.0 150.0 46.0
E ESE SE SSE	.0	19.0	6.0 5.0 1.0 43.0	.0	.0 .0 .0	.0	.0	34.0 24.0 27.0 128.0
s ssw sw wsw	.0	62.0 <b>4</b> 2.0	73.0 21.0 17.0 22.0	7.0 3.0		.0		90.0 62.0
W WNW NW WMN	.0		61.0 100.0 156.0 118.0		.0 4.0	.0	.0	313.0
TOTAL	.0	742.0	1020.0	364.0	20.0	.0	.0	2146.0
DATA M	EASUREMENT H ATURE SENSOR	EIGHT (	M ABOVE O TION (MET	GRADE) TERS)		10.00 50.90		
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 14 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2146								

NL-02-065 May, 2002 Re: Indian Point Unit Nos. 1 & 2

Docket Nos. 50-03 & 50-247

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JAN/FEB/MAR 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: A

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	12.50 -	18.50 -	80.00	TOTAL
N NNE NE ENE	. 0 . 0 . 0	.0 .0 .0		.0	.0	4.0	2.0	
E ESE SE SSE	. 0 . 0 . 0	.0.0	.0 .0 .0 2.0	.0	.0		.0	.0 .0 .0 5.0
S SSW SW WSW			.0 .0 .0	1.0 1.0	2.0 1.0	.0 1.0 .0	.0	.0 4.0 2.0 .0
W WNW NW NNW	.0 .0 .0		.0 .0	5.0 6.0	11.0	7.0	.0 5.0	
TOTAL	.0	.0	3.0	20.0	33.0	17.0	8.0	81.0
	EASUREMENT H ATURE SENSOR					60.00 50.90		
	G OBS. DURIN OBSER. DURIN							

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: B

	WIND SPEED	(MPH)						
WIND FROM	CALMS		3.50 -		12.50 - 18.50	18.50 -	24.00 -	TOTAL
N NNE NE ENE	. 0 . 0 . 0	.0	1.0 .0 .0	5.0 .0 .0		.0		10.0
E ESE SE SSE	.0 .0 .0	.0 .0 .0	.0 .0 .0 3.0	.0 .0 .0	.0 .0 .0	.0	.0 .0 .0	
S SSW SW WSW	.0 .0 .0		.0 1.0 .0		.0 .0 1.0	.0 .0 .0	.0 .0 .0	2.0 2.0 2.0 1.0
W WNW WU WNN	.0 .0 .0	.0 .0 .0	.0	1.0 2.0 2.0 5.0	3.0 3.0	.0 .0 1.0	.0 .0 5.0	
TOTAL	.0	.0	6.0	20.0	17.0	3.0	6.0	52.0
	EASUREMENT I ATURE SENSOI					60.00 50.90		
	G OBS. DURII OBSER. DURII							

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: C

	WIND SPEED	(MPH)						
WIND FROM	CALMS				12.50 -	18.50 ~ 24.00		TOTAL
N	.0	.0	4.0	11.0	1.0	7.0	4.0	27.0
NNE	. 0	. 0	.0		. 0	. 0	.0	.0
NE	.0	. 0	.0	.0	. 0	.0		. 0
ENE	. 0	.0	.0	. 0	.0	.0	. 0	.0
E	.0	.0	.0	.0	.0	.0	.0	.0
ESE	.0	.0	.0	.0	.0	.0	.0	.0
SE	.0	.0	. 0		.0	.0	.0	.0
SSE	.0	.0	5.0	4.0	.0	.0	.0	9.0
S	.0	.0	2.0	6.0	1.0	.0	.0	9.0
SSW	.0	.0	1.0	.0	1.0	1.0	.0	3.0
SW	. 0	.0	2.0	.0	1.0	.0	.0	3.0
WSW	.0	.0	.0	.0	.0	.0	.0	.0
W	.0	.0	.0	1.0	4.0	.0	.0	5.0
WNW	.0	.0	.0	.0	5.0	.0	.0	5.0
NW	.0	.0	1.0	2.0	9.0	8.0	3.0	23.0
NNW	. 0	.0	8.0	1.0		3.0	1.0	16.0
TOTAL	. 0	.0	23.0	25.0	25.0	19.0	8.0	100.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 60.00								
	ATURE SENSOR		•	·		50.90		
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 14 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2146								

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: D

	WIND SPEED	(MPH)						
WIND						18.50 -		
	CALMS							TOTAL
N	.0	5.0	49.0	90.0	67.0	23.0	27.0	261.0
NNE	. 0	9.0	46.0	40.0	13.0	2.0	.0	110.0
NE						.0		40.0
ENE	. 0	5.0	7.0	1.0	. 0	.0	.0	13.0
E		4.0	8.0	3.0	.0	.0		15.0
ESE	.0	5.0	5.0	4.0	.0	.0	.0	14.0
SE	.0	3.0	6.0	2.0	.0	.0	.0	11.0
SSE	.0	20.0	5.0 6.0 32.0	10.0	.0	.0	.0	62.0
S		15.0	27.0	6.0	4.0	.0	.0	52.0
SSW	.0	8.0	18.0	4.0	4.0	.0	.0	34.0
SW	.0		13.0			3.0		22.0
WSW	.0	3.0	6.0	10.0	2.0	.0	.0	21.0
W	.0	4.0	2.0	20.0	14.0	2.0	.0	42.0
WNW	.0	3.0	8.0	27.0	47.0	8.0	2.0	95.0
NW	. 0	6.0	6.0	57.0	98.0	56.0	11.0	234.0
MMM	. 0	5.0	11.0	42.0	48.0	6.0	2.0 11.0 1.0	113.0
TOTAL	.0	109.0	256.0	333.0	300.0	100.0	41.0	1139.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 60.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
TEMPER	ATUKE SENSOR	SEPARA	TION (MET	ERS)		50.90		
	G OBS. DURIN							
VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2146								

NL-02-065 May, 2002 Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JAN/FEB/MAR 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: E

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	18.50	18.50 - 24.00		TOTAL
N NNE NE ENE	.1	8.0 15.0		7.0 1.0	. 0 . 0	.0 .0 .0	.0	
E ESE SE SSE	.0 .0	6.0 .0 5.0 7.0	4.0 4.0 6.0 20.0	.0 .0 .0 8.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	4.0 11.0
S SSW SW WSW		12.0 2.0	28.0 18.0	25.0 6.0	3.0		. 0 . 0	68.1 26.0
W WNW NW NNW	.0 .0 .0	3.0	2.0	14.0	3.0 9.0 5.0 7.0	3.0 2.0	1.0 .0 2.0 .0	31.0 29.0
TOTAL	1.0	103.0	261.0	133.0	36.0	8.0	3.0	545.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 60.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 14 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2146								

NL-02-065 May, 2002 Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JAN/FEB/MAR 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: F

	WIND SPEED	(MPH)						
WIND FROM	CALMS				18.50	18.50 - 24.00		TOTAL
N NNE NE ENE	. 0 . 0	12.0 3.0		7.0 1.0 .0	.0	.0	.0	29.0 60.0 7.0 4.0
E ESE SE SSE	.0	1.0	2.0 .0 .0 7.0	0	.0	.0	.0	
S SSW SW WSW	.0	4.0 2.0	9.0 12.0 5.0 4.0	5.0 7.0	.0	.0 .0 1.0	.0	21.0
W WNW NW NNW	.0	2.0 2.0	1.0 1.0 1.0	.0 .0	.0 1.0		. 0 . 0	3.0 3.0 4.0 4.0
TOTAL	.0	57.0	109.0	25.0	1.0	1.0	.0	193.0
DATA MI TEMPERA	EASUREMENT H ATURE SENSOR	EIGHT ( SEPARA	M ABOVE G TION (MET	RADE) ERS)		60.00 50.90		
	G OBS. DURIN OBSER. DURIN							

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: G

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 - 24.00		TOTAL
N NNE NE ENE	.0	4.0 1.0	5.0 1.0	.0 1.0 .0	.0	.0 .0 .0	.0 .0	4.0 10.0 2.0
E ESE SE SSE	.0	1.0 1.0 .0 1.0	. 0 . 0	.0	.0 .0 .0	.0	.0	
S SSW SW WSW	. 0	2.0		.0 1.0 .0	.0	.0	.0	
W WNW NW NNW	.0			.0 .0 .0	. 0	.0 .0 .0		
TOTAL	.0	15.0	19.0	2.0	.0	.0	.0	36.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 60.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
	G OBS. DURIN OBSER. DURIN							

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: ALL

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	12.50 -	18.50 -	24.00 -	TOTAL
		29.0	102.0	126.0	73.0	35.0	34.0	399.2
NNE	.1	33.0	165.0	49.0	13.0	2.0	.0	262.1
NE	.1	29.0	33.0	16.0	3.0	.0	.0	81.1
ENE	.1	15.0	9.0	1.0	.0	.0	.0	25.1
E	.1	13.0	14.0	3.0	.0	.0	.0	30.1
ESE	.0	7.0	9.0	4.0	.0		.0	20.0
SE	.0		12.0			.0		25.0
SSE	.1	32.0	73.0	26.0	.0	.0	.0	131.1
s	.1	30.0	71.0	36.0	10.0	.0	.0	147.1
SSW		26.0	62.0	37.0	10.0	2.0	.0	137.1
SW	.0	8.0	38.0	17.0	3.0	4.0	.0	70.0
WSW	.0 .1	16.0	25.0	18.0	3.0	.0	.0	62.1
W	. 0	5.0	14.0	38.0	25.0	3.0	1.0	86.0
WNW	.0						2.0	
	.0						26.0	
MMM	.0	11.0	28.0	54.0	66.0	16.0	3.0	178.0
TOTAL	1.0	284.0	677.0	558.0	412.0	148.0	66.0	2146.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) TEMPERATURE SENSOR SEPARATION (METERS)						60.00 50.90		
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 14 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2146								

NL-02-065 May, 2002 Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JAN/FEB/MAR 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: A

WIND	SPEED	(MPH)

						<b></b> -		
WIND		.60 -	3.50 -	7.50 ~	12.50 -	18.50 -	24.00 -	
FROM	CALMS	3.50	7.50	12.50	18.50	24.00	80.00	TOTAL
						24.00		IOIAL
N	. 0	.0	.0	.0	.0	.0	.0	.0
NNE	.0	.0	.0	.0	.0	.0	.0	.0
NE	.0	.0	.0	.0	.0	.0	.0	.0
ENE	.0	.0	.0	.0	.0	.0	.0	
2212	. 0	. 0	.0	. 0	.0	.0	. 0	.0
E	.0	.0	. 0	. 0	.0	.0	. 0	.0
ESE	.0	.0	.0	.0	. 0	.0	.0	.0
SE	.0	. 0	. 0	. 0	.0	.0	.0	. ŏ
SSE	. 0	.0	.0	.0	.0	.0	.0	.0
	, ,			. •	. 0	• •	.0	. 0
S	.0	.0	.0	. 0	.0	.0	.0	.0
SSW	. 0	.0	.0	. 0	.0	.0	.0	.0
SW	.0	.0	.0	. 0	.0	.0	.0	.0
WSW	.0	. 0	.0	.0	.0	.0	.0	.0
						••	. 0	. 0
W	.0	.0	.0	1.0	.0	.0	.0	1.0
WNW	.0	.0	.0	.0	.0	. 0	.0	.0
NW	.0	.0	.0	. 0	.0	.0	.0	.0
NNW	.0	.0	.0	.0	.0	.0	11.0	11.0
			. 0	.0	.0	.0	11.0	11.0
TOTAL	.0	.0	.0	1.0	.0	.0	11.0	12.0

DATA MEASURED TEMPERATURE S		•	122.00 112.00
MISSING OBS. VALID OBSER.	•	STABILITIES) STABILITIES)	146 2014

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: B

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	12.50 - 18.50	18.50 - 24.00	24.00 -	TOTAL
N NNE NE ENE	.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0	.0 .0 .0	.0
E ESE SE SSE	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0
s ssw sw wsw	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0
W WNW NW NNW	.0 .0 .0	. 0 . 0 . 0	.0 .0 .0	1.0 .0 .0	.0 .0 .0	.0 .0 .0 2.0	.0 .0 .0 5.0	1.0 .0 .0 7.0
TOTAL	.0	.0	.0	1.0	1.0	2.0	5.0	9.0

TEMPERATURE :		,	122.00 112.00
MISSING OBS. VALID OBSER.			146 2014

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: C

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 -	7.50 - 12.50	12.50 - 18.50	18.50 - 24.00	24.00 -	TOTAL
N NNE NE ENE	.0.0.0	.0	.0	1.0 .0 .0	.0	.0	.0	1.0 .0 .0
E ESE SE SSE	.0 .0 .0	.0 .0 .0	. 0 . 0 . 0	.0 2.0	.0	.0	.0 .0 .0	.0 .0 2.0 .0
S SSW SW WSW	.0 .0 .0	.0 .0 .0	.0	.0 .0 .0	.0	2.0 .0 .0	. 0 . 0	
W WNW NW NNW	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 2.0 .0 2.0	4.0 .0	.0 6.0 4.0 .0	.0	13.0
TOTAL	.0	.0	.0	7.0	8.0	12.0	4.0	31.0
DATA M	EASUREMENT H ATURE SENSOR	EIGHT ( SEPARA	M ABOVE G TION (MET	RADE) ERS)		122.00 112.00		
	G OBS. DURIN OBSER. DURIN							

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: D

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 - 24.00		TOTAL
N NNE NE ENE	.0	8.0 6.0	31.0 15.0 7.0	41.0 11.0 3.0	12.0 12.0	6.0 3.0 .0	2.0	49.0 16.0
E ESE SE SSE	.0	9.0 12.0	11.0	6.0 29.0	.0 5.0	.0 .0 .0	.0	26.0 84.0
S SSW SW WSW	. 0 . 0	4.0 3.0	10.0	3.0 9.0	3.0 7.0	3.0 .0 1.0 8.0	.0	19.0
W WNW NW NNW	.0	1.0	6.0 22.0	31.0 45.0	104.0 44.0	28.0 60.0 16.0 25.0	33.0 4.0	235.0 131.0
TOTAL	.0	82.0	243.0	352.0	383.0	150.0	86.0	1296.0
	EASUREMENT H ATURE SENSOR					122.00 112.00		
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 146 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2014								

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: E

	WIND SPEED	(MPH)						
WIND FROM	CALMS							TOTAL
N NNE NE ENE	.2 .2 .1	15.0 15.0 9.0	20.0 11.0 6.0	7.0 1.0 1.0		.0 .0 .0		
E ESE SE SSE	.2	11.0 18.0	4.0 1.0 17.0 30.0	2.0 10.0	.0		.0	9.1 14.2 47.3 77.1
s ssw sw wsw	.1 .1	8.0 4.0	24.0 15.0 11.0 7.0	19.0 9.0	2.0 3.0	.0	.0 1.0 .0 2.0	45.1 27.1
W WNW NW NNW	.1 .1	7.0	9.0 8.0 10.0 24.0	5.0	.0	.0		21.1 22.1
TOTAL	2.0	136.0	207.0	169.0	27.0	5.0	6.0	552.0
	EASUREMENT H ATURE SENSOR					122.00 112.00		
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 146 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2014								

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: F

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 - 24.00		TOTAL
N NNE NE ENE	.0	.0 3.0	6.0 5.0 .0	.0	.0	.0	. 0	10.0 5.0 3.0 4.0
E ESE SE SSE	.0 .0 .0	2.0	.0	.0	.0 .0 .0	.0	.0 .0 .0	
S SSW SW WSW	.0	4.0 5.0	2.0	1.0	.0	1.0 .0 .0	.0	7.0 6.0
W WNW WN WNN	. 0	1.0	.0 2.0 4.0 5.0	.0	1.0	.0	.0 1.0 .0	8.0 6.0
TOTAL	.0	45.0	43.0	9.0	4.0	1.0	1.0	103.0
	DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 122.00 TEMPERATURE SENSOR SEPARATION (METERS) 112.00							
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 146 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2014								

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: G

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 -	7.50 - 12.50		18.50 - 24.00	24.00 -	TOTAL
N NNE NE ENE	.0	.0 .0 .0	1.0 .0 .0	.0 .0 .0	.0 .0 .0	.0	.0 .0 .0	1.0 .0 .0
E ESE SE SSE	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0 1.0
s ssw sw wsw	.0 .0 .0	.0 .0 .0	.0 2.0 .0 1.0	1.0 .0 .0 2.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	1.0 2.0 .0 3.0
W WNW NW NNW	.0 .0 .0	.0 1.0 .0	.0 .0 .0	.0 1.0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 2.0 .0 1.0
TOTAL	.0	1.0	5.0	4.0	1.0	.0	.0	11.0

DATA MEASUREMENT HEIGHT (M ABOVE GRADE) TEMPERATURE SENSOR SEPARATION (METERS)	122.00 112.00
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)	146 2014

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 1/ 1/ 0] TO [2001/ 3/31/23]

PASQUILL STABILITY: ALL

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	12.50 - 18.50		24.00 -	TOTAL
N NNE NE ENE	.1	23.0 18.0	58.0 31.0 13.0	49.0 12.0 4.0	12.0 12.0	6.0 3.0 .0	2.0	153.2 81.2 35.1 43.1
E ESE SE SSE	.2	22.0	6.0 12.0 57.0 69.0	8.0	2.0 .0 7.0 15.0	.0	. 0	
s ssw sw wsw	.1	16.0 12.0	28.0	23.0 19.0	5.0 10.0	.0 1.0	.0 1.0 .0 2.0	73.1 63.1
W WNW NW NNW	.1 .1	9.0 8.0	16.0 36.0	42.0 50.0	110.0 45.0	20.0	11.0 36.0 4.0 57.0	279.1 163.1
TOTAL	2.0	264.0	498.0	543.0	424.0	170.0	113.0	2014.0
DATA M TEMPER	EASUREMENT H ATURE SENSOR	EIGHT ( SEPARA	M ABOVE G TION (MET	RADE) ERS)		122.00 112.00		
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 146 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2014								

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: A

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 - 24.00		TOTAL
N NNE NE ENE	.0	.0 1.0	11.0 1.0	11.0	.0	.0 .0 .0	.0 .0	64.0 22.0 2.0 1.0
E ESE SE SSE	.0 .0 .0	.0 .0 .0	.0 .0 3.0 34.0	.0 .0 .0 2.0	.0 .0 .0	.0 .0 .0	.0	
S SSW SW WSW	.0.0.0	1.0 2.0	39.0 10.0 2.0 8.0	4.0 1.0	.0		.0 .0 .0	15.0 5.0
W WIW WIW	.0	2.0	14.0 17.0 21.0 26.0	1.0 7.0	. 0 . 0			
TOTAL	.0	11.0	231.0	66.0	.0	.0	.0	308.0
	EASUREMENT H ATURE SENSOR					10.00 50.90		
	G OBS. DURIN OBSER. DURIN					1 2183		

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: B

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 - 24.00		TOTAL
N NNE NE ENE	.0 .0	.0 .0		6.0 3.0 2.0	.0	.0	. 0 . 0	
E ESE SE SSE	. 0 . 0	.0 2.0 .0 .0	2.0 .0	.0 .0 .0	.0 .0 .0	.0		
S SSW SW WSW	.0	2.0	13.0 6.0 7.0 4.0	3.0	. 0	.0 .0 .0	.0	
W WNW NW NNW	.0 .0	$\frac{1.0}{2.0}$	5.0 5.0 3.0 6.0	4.0 1.0	. 0 . 0	.0	.0	5.0 10.0 6.0 7.0
TOTAL	. 0	16.0	106.0	19.0	.0	.0	.0	141.0
	EASUREMENT H ATURE SENSOR					10.00 50.90		
	G OBS. DURIN OBSER. DURIN							

NL-02-065 May, 2002 Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - APR/MAY/JUN 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: C

	WIND SPEED	(MPH)						
WIND	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50		18.50 - 24.00	24.00 -	TOTAL
N	.0	1.0	18.0	2.0	1.0	.0	.0	22.0
NNE	.0	2.0	10.0	4.0	.0	.0	.0	16.0
NE	. 0	.0	5.0	1.0	.0	.0	.0	6.0
ENE	. 0	1.0	2.0	.0	.0	.0	.0	3.0
E	.0	1.0	.0	.0	.0	.0	.0	1.0
ESE	.0	1.0	. 0	. 0	.0	.0	.0	1.0
SE SSE	. 0 . 0	1.0 2.0	.0 4.0	.0	.0	.0	.0	1.0
SSE	.0	2.0	4.0	.0	.0	.0	.0	6.0
S	.0	8.0	15.0	.0	.0	.0	.0	23.0
SSW	.0	3.0	7.0	.0	.0	.0	.0	10.0
SW	.0	3.0	1.0	1.0	.0	.0	.0	5.0
WSW	.0	1.0	3.0	.0	.0	.0	.0	4.0
W	.0	.0	2.0	1.0	.0	.0	.0	3.0
WNW	. 0	.0	2.0	3.0	. 0	.0	.0	5.0
NW	. 0	3.0	3.0	.0	.0	.0	.0	6.0
NNW	. 0	2.0	4.0	1.0	.0	.0	. 0	7.0
TOTAL	.0	29.0	76.0	13.0	1.0	.0	.0	119.0

DATA MEASUREMENT HEIGHT (M ABOVE TEMPERATURE SENSOR SEPARATION (ME		10.00 50.90
MISSING OBS. DURING THIS PERIOD (.VALID OBSER. DURING THIS PERIOD (.	· · · · · · · · · · · · · · · · · · ·	1 2183

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: D

	WIND SPEED	(MPH)						
WIND FROM					12.50 - 18.50			TOTAL
	•							
N			74.0				.0	118.0
NNE		40.0	90.0	31.0	.0	.0		161.0
NE		30.0	39.0	1.0	.0	.0		70.0
ENE	.0	21.0	7.0	.0	.0	.0	.0	28.0
E	.0	25.0	4.0	.0	.0	.0	.0	29.0
ESE	.0	18.0		. 0	.0	.0	.0	21.0
SE	.0	19.0	3.0	.0	.0	.0	.0	22.0
SSE	. 0	46.0	29.0	1.0	.0	.0	.0	76.0
S	.0	29.0	79.0	.0	.0	. 0	.0	108.0
SSW	.0		21.0	1.0	.0	.0	•	52.0
SW	.0	13.0	13.0	.0	.0	.0	. 0	26.0
WSW	.0		6.0	1.0	.0	.0	.0	25.0
W	. 0	12.0	8.0	3.0	.0	. 0	.0	23.0
WNW	.0	13.0		4.0	.0		.0	
NW			19.0		.0		.0	
NNW	.0	11.0	16.0	11.0	.0		.0	
TOTAL	. 0	353.0	422.0	81.0	5.0	.0	.0	861.0
	EASUREMENT H ATURE SENSOF	-				10.00 50.90		
MISSIN	G OBS. DURIN		,		LITIES)	1		

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: E

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 -		TOTAL
N NNE NE ENE	.0	34.0 30.0	39.0 24.0	.0 2.0 .0	.0	.0	.0 .0	75.0
E ESE SE SSE	.0	16.0	.0 1.0 .0 13.0	.0		.0	.0 .0 .0	16.0
S SSW SW WSW	.0 .0 .0	28.0 22.0	20.0 7.0 2.0 7.0	.0 1.0 1.0	.0	.0 .0 .0	.0 .0 .0	59.0 36.0 25.0 23.0
W WNW NW NNW		2.0 9.0	6.0 1.0 5.0 10.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0	16.0 3.0 14.0 29.0
TOTAL	. 0	324.0	158.0	5.0	.0	. 0	.0	487.0
	EASUREMENT H ATURE SENSOR					10.00 50.90		
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 1 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2183								

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: F

	WIND SPEED	(MPH)						
WIND FROM	CALMS				12.50 - 18.50	18.50 - 24.00		TOTAL
N			.0		.0		.0	25.0
NNE			17.0	.0	.0	.0		61.0
NE			20.0		.0	.0		39.0
ENE	. 0	9.0	2.0	.0	.0	.0	.0	11.0
E	.0	3.0	.0	.0	.0	.0	.0	3.0
ESE	. 0	7.0	.0	.0	.0	.0	.0	7.0
SE	.0	4.0	.0	.0	.0	.0	.0	4.0
SSE	. 0	2.0	.0	.0	.0	.0	.0	2.0
S	.0	5.0	.0	.0	.0	.0	.0	5.0
SSW	. 0	5.0	.0	.0	.0	.0	.0	5.0
SW	.0	10.0	. 0	. 0	.0	.0	.0	10.0
WSW	.0	8.0	.0	. 0	.0	.0	.0	8.0
W	. 0	3.0	. 0	.0	.0	.0	.0	3.0
WNW	.0	3.0	.0	. 0	.0			3.0
NW		3.0	.0	.0	.0			3.0
NNW	. 0	13.0	1.0	.0		.0		14.0
TOTAL	. 0	163.0	40.0	.0	.0	.0	.0	203.0
	EASUREMENT H ATURE SENSOR					10.00 50.90		
MISSIN	G OBS. DURIN		PERIOD (A			1		

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: G

	WIND SPEED	(MPH)								
WIND FROM	CALMS	.60 - 3.50				18.50 - 24.00		TOTAL		
N NNE NE ENE		13.0 21.0 9.0 1.0	.0 5.0 11.0	.0	.0	.0	.0 .0 .0	13.0 26.0 20.0 1.0		
E ESE SE SSE	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0		
s ssw sw wsw	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0 1.0		
W WNW NW NNW	.0 .0 .0	.0 1.0 1.0	.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0.0	.0 1.0 1.0		
TOTAL	. 0	48.0	16.0	.0	.0	.0	.0	64.0		
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 10.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90										
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 1										

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: ALL

	WIND SPEED	(MPH)						
WIND FROM	CALMS							TOTAL
N NNE NE ENE	. 0 . 0	141.0 89.0	188.0 183.0 105.0 12.0	48.0 51.0 4.0	6.0	.0	. 0 . 0	375.0
E ESE SE SSE	. 0	42.0	4.0 6.0 6.0 90.0	0	.0	.0	.0	
s ssw sw wsw	. 0 . 0	69.0 52.0	166.0 51.0 25.0 28.0	9.0 3.0	.0 .0 .0	.0		
W WNW NW NNW	. 0 . 0	22.0 27.0	35.0 36.0 51.0 63.0	12.0 16.0	.0 .0	.0	.0	65.0 70.0 94.0 128.0
TOTAL	. 0	944.0	1049.0	184.0	6.0	.0	.0	2183.0
DATA M TEMPER	EASUREMENT H ATURE SENSOR	EIGHT (	M ABOVE G TION (MET	RADE) ERS)		10.00 50.90		
	G OBS. DURIN OBSER. DURIN							

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/4/1/0] TO [2001/6/30/23]

PASQUILL STABILITY: A

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 - 24.00		TOTAL
N NNE NE ENE	.0	.0	2.0	5.0	1.0	.0		8.0 2.0
E ESE SE SSE	.0	.0 .0 .0 1.0	1.0	1.0 1.0 2.0 39.0	.0		.0 .0	1.0 2.0 2.0 65.0
S SSW SW WSW	.0 .0	.0 .0 1.0 .0		3.0 1.0	1.0 2.0	1.0	.0	7.0 5.0
W WNW NW WNN	.0	.0	5.0 3.0 1.0 2.0	13.0 17.0	21.0	.0 7.0	.0 .0 .0	27.0 46.0
TOTAL	. 0	2.0	59.0	145.0	84.0	17.0	1.0	308.0
	EASUREMENT H ATURE SENSOR					60.00 50.90		
	G OBS. DURIN OBSER. DURIN							

NL-02-065 May, 2002 Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - APR/MAY/JUN 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: B

	WIND SPEED	(MPH)						
WIND FROM	CALMS				18.50	18.50 -		TOTAL
N NNE NE ENE	.0 .0 .0	.0 .0 .0	9.0 4.0 .0	12.0 3.0 5.0	6.0	4.0 .0 .0	.0 .0 .0	31.0 7.0 5.0 3.0
E ESE SE SSE		. 0 . 0 . 0	.0 1.0 .0 9.0	3.0	.0 .0 .0	.0	.0 .0 .0	
S SSW SW WSW	. 0 . 0	.0 .0	13.0 3.0 5.0 2.0	1.0	2.0 3.0	.0	. 0	6.0 8.0
W WNW NW NNW	. 0 . 0	.0	3.0 4.0 4.0 3.0	3.0 3.0	2.0 2.0	.0 1.0 3.0	.0	6.0 11.0 12.0 10.0
TOTAL	.0	1.0	62.0	49.0	21.0	8.0	.0	141.0
	EASUREMENT H ATURE SENSOR					60.00 50.90		
	G OBS. DURIN							

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: C

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 - 24.00		TOTAL
N NNE NE ENE	. 0 . 0	. 0 . 0	2.0	10.0 4.0 4.0	1.0	.0 1.0 .0		21.0 8.0 7.0 3.0
E ESE SE SSE	.0 .0 .0	1.0	2.0	.0	.0 .0 .0	.0	.0 .0 .0	
S SSW SW WSW	.0	2.0	11.0 2.0 3.0 .0	1.0	1.0	.0		5.0 6.0
W WNW NW WNN	.0			4.0	2.0 2.0	.0 3.0 2.0 .0	.0	3.0 9.0 12.0 7.0
TOTAL	. 0	10.0	51.0	38.0	12.0	7.0	1.0	119.0
	EASUREMENT H ATURE SENSOR			•		60.00 50.90		
MISSIN	G OBS. DURIN				LITIES)	1		

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: D

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	18.50	18.50 - 24.00	80.00	TOTAL
N	.0	1.0	32.0	25.0	46.0	13.0	6.0	123.0
NNE	. 0	8.0	47.0	38.0	8.0	.0	.0	101.0
NE						.0		61.0
ENE	. 0	8.0	29.0	10.0	.0	.0	.0	47.0
E	.0	13.0	25.0	3.0	1.0	.0	.0	42.0
ESE	.0	6.0	24.0	6.0	. 0	.0	.0	
SE	.0	7.0	23.0	3.0	.0	.0	.0	33.0
SSE	. 0	18.0	47.0	47.0	5.0	.0	.0	
S	.0	15.0	37.0	25.0	2.0	. 0	.0	79.0
SSW						.0		37.0
SW	. 0	6.0	6.0	1.0	2.0	.0	.0	
WSW	.0	7.0	5.0	4.0	2.0	1.0		19.0
W	.0	6.0	4.0	3.0	4.0	2.0	1.0	20.0
WNW	.0	4.0	2.0	4.0	11.0	2.0	1.0	24.0
NW	.0		7.0	12.0	18.0	6.0	2.0	50.0
NNW	. 0	7.0	5.0	12.0	24.0	9.0	.0	57.0
TOTAL	. 0	128.0	347.0	218.0	125.0	33.0	10.0	861.0
DATA M	EASUREMENT H	EIGHT (	M ABOVE G	RADE)		60 00		
TEMPER	ATURE SENSOR	SEPARA	TION (MET	ERS)		50.90		
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 1 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2183								
VILLE ODDER. DORLING THIS PERIOD (ADD STABILITIES) 2183								

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: E

	WIND SPEED	(MPH)						
	CALMS	3.50		12.50	18.50	18.50 - 24.00		TOTAL
N	.0	7.0	19.0	14.0	3.0	.0		
NNE NE	.0	7.0	51.0	23.0	1.0	.0	.0	
ENE	. 0 . 0				.0		.0	
ENE	.0	4.0	2.0	.0	.0	.0	.0	6.0
E	.0	3.0	2.0	.0	.0	.0	.0	5.0
ESE	.0	4.0	4.0	1.0	.0	. 0	.0	9.0
SE	.0	11.0	8.0	1.0		.0	.0	21.0
SSE	.0	16.0	56.0	31.0	.0	.0	.0	
S	.0	15.0	22.0	8.0	.0	.0	.0	45.0
SSW			12.0	5.0	1.0	.0	.0	25.0
SW	.0			2.0		.0	. 0	15.0
WSW	. 0	6.0	3.0	3.0	.0	.0	.0	12.0
W		2.0	5.0	14.0	4.0	.0	.0	25.0
WNW	.0	3.0	3.0	7.0	3.0	.0	.0	16.0
NW		5.0			9.0		.0	44.0
NNW	. 0	1.0	3.0	12.0	7.0	.0	.0	23.0
TOTAL	.0	98.0	214.0	142.0	29.0	4.0	.0	487.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) TEMPERATURE SENSOR SEPARATION (METERS)						60.00 50.90		
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 21								

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: F

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 -	7.50 - 12.50		18.50 - 24.00	24.00 -	TOTAL
N NNE NE ENE	.0 .0	15.0 1.0	44.0	10.0 7.0 1.0	.0 .0 .0	.0	.0	66.0
E ESE SE SSE	.0 .0 .0	3.0 1.0	.0 .0 1.0 7.0	.0	.0	.0	.0	1.0 3.0 2.0 15.0
s ssw sw wsw	. 0 . 0	9.0 7.0	5.0 4.0 5.0 2.0	. 0 . 0	. 0 . 0	.0	.0	12.0
W WNW NW NNW	.0	1.0	3.0 .0 2.0 8.0	1.0	.0	.0	.0	4.0 2.0 4.0 15.0
TOTAL	.0	73.0	102.0	28.0	.0	.0	.0	203.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 60.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 1 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2183								

NL-02-065 May, 2002 Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - APR/MAY/JUN 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: G

	WIND SPEED	(MPH)						
WIND FROM	CALMS		3.50 ~			18.50 - 24.00		TOTAL
N			4.0				.0	14.0
NNE			8.0	3.0	.0	.0	.0	14.0
NE	.0	3.0	1.0	.0	.0	.0	.0	4.0
ENE	.0	2.0	.0	.0	.0	.0	.0	2.0
E	.0	2.0	.0	.0	.0	.0	.0	2.0
ESE	.0	4.0	.0	.0	.0	.0	.0	4.0
SE	.0	1.0	.0	.0	.0	.0	.0	1.0
SSE	. 0	4.0	1.0	.0	.0	.0	.0	5.0
S	.0	2.0	2.0	۰.0	. 0	.0	.0	4.0
SSW		2.0	.0	. 0	.0	.0	.0	2.0
SW	.0	3.0	. 0	.0	.0	.0	.0	3.0
WSW	. 0	.0	.0	.0	.0	.0		. 0
W	. 0	1.0	1.0	.0	.0	. 0	.0	2.0
WNW	.0	1.0		. 0	.0	.0	.0	
NW	.0	1.0	.0	1.0	.0	.0	.0	
WMM	.0		2.0	1.0	.0	.0		
TOTAL	. 0	33.0	19.0	12.0	.0	.0	.0	64.0
	EASUREMENT H ATURE SENSOR					60.00 50.90		
MISSIN	G OBS. DURIN		PERIOD (A			1		

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: ALL

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 -	7.50 ~ 12.50	12.50 - 18.50	18.50 - 24.00	24.00 - 80.00	TOTAL
N NNE NE	. 0 . 0	33.0 12.0	97.0 158.0 57.0	83.0 27.0	11.0 1.0	25.0	8.0 .0 .0	343.0 286.0 97.0 64.0
	. 0 . 0	18.0 21.0	30.0 34.0	11.0 6.0	.0	.0 .0 .0	.0	53.0 59.0 62.0 336.0
s ssw sw wsw	.0	32.0 23.0	103.0 39.0 28.0 13.0	19.0 4.0	5.0 8.0		.0 .0	197.0 95.0 64.0 50.0
W WNW NW NNW	.0	9.0 14.0	12.0 21.0	33.0 59.0	29.0 52.0	6.0	1.0 1.0 2.0	90.0
TOTAL	.0	345.0	854.0	632.0	271.0	69.0	12.0	2183.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 60.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 1 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2183								

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: A

	WIND SPEED	(MPH)						
WIND FROM	CALMS		3.50 - 7.50		12.50 -		24.00 ~	TOTAL
N NNE NE ENE	.0	.0	.0	.0	1.0 .0 .0	.0 .0 .0	.0 .0 .0	1.0 .0 .0
E ESE SE SSE	.0 .0 .0	1.0 .0 .0	.0 .0 1.0 .0	.0 1.0 5.0	.0 .0 3.0	.0	.0 .0 .0	1.0 1.0 9.0 .0
S SSW SW WSW	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0
W WNW NW NNW	.0 .0 .0	. 0 . 0 . 0	.0 .0 .0	.0 1.0 .0	2.0 .0 1.0 3.0	.0 3.0 .0 4.0	.0 .0 .0	2.0 4.0 1.0 7.0
TOTAL	.0	1.0	1.0	7.0	10.0	7.0	.0	26.0

DATA MEASUREMENT TEMPERATURE SENS	•	· •	122.00 112.00
		(ALL STABILITIES) (ALL STABILITIES)	1 2183

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - APR/MAY/JUN 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: B

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	12.50 - 18.50	18.50 - 24.00	24.00 -	TOTAL
N NNE NE ENE	. 0 . 0 . 0	.0 .0 .0	.0 1.0 .0	.0 .0 .0	1.0 .0 .0	.0 .0 .0	.0	1.0 1.0 .0
e ese se sse	.0 .0 .0	. 0 . 0 . 0	.0 .0 1.0	.0 1.0 15.0 4.0	.0 .0 3.0 1.0	.0 .0 .0	.0 .0 .0	.0 1.0 19.0 5.0
s ssw sw wsw	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0 2.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0 2.0
W WNW NW NNW	.0 .0 .0	.0 .0 .0	.0 .0 .0	5.0 6.0 2.0 2.0	4.0 6.0 4.0 4.0	.0 8.0 1.0 5.0	.0 1.0 .0	9.0 21.0 7.0 11.0
TOTAL	.0	.0	2.0	37.0	23.0	14.0	1.0	77.0

DATA MEASUREMENT HEIGHT (M ABOVE GRADE) TEMPERATURE SENSOR SEPARATION (METERS)	122.00 112.00
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)	1 2183

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: C

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	12.50 -	18.50 - 24.00	24.00 -	TOTAL
N NNE NE ENE	.0	.0 .0 .0 2.0	1.0 .0 .0	5.0 2.0 .0 1.0	1.0 .0 .0	.0	.0 .0 .0	7.0 2.0 .0 3.0
E ESE SE SSE	.0 .0 .0	.0 .0 .0	.0 2.0 5.0 3.0	.0 .0 7.0 7.0	.0 .0 6.0 2.0	.0 .0 .0	.0 .0 .0	.0 2.0 18.0 13.0
s ssw sw wsw	.0 .0 .0	.0 .0 .0	2.0 .0 .0 2.0	2.0 .0 .0 3.0	1.0 .0 .0 2.0	.0 .0 .0	.0 1.0 .0	5.0 1.0 .0 7.0
W WNW NW NNW	.0 .0 .0	.0 .0 .0	.0 .0 .0 4.0	5.0 5.0 4.0 26.0	10.0 5.0 9.0 11.0	2.0 5.0 1.0 8.0	.0 .0 .0	17.0 15.0 14.0 50.0
TOTAL	.0	3.0	19.0	67.0	47.0	16.0	2.0	154.0

DATA MEASUREMENT HEIGHT (M ABOVE GRADE) TEMPERATURE SENSOR SEPARATION (METERS)	122.00 112.00
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)	1 2183

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - APR/MAY/JUN 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: D

	WIND SPEED	(MPH)						
WIND FROM	CALMS				18.50	18.50 - 24.00	80.00	TOTAL
N NNE NE ENE	.0 .0 .0	8.0 8.0 2.0	41.0 27.0	56.0 31.0 20.0	7.0 4.0	5.0 .0 .0	.0	117.0 70.0 54.0 53.0
	. 0 . 0	17.0 11.0	21.0 31.0 70.0 48.0	11.0	1.0	.0	.0	44.0 60.0 180.0 110.0
S SSW SW WSW	. 0 . 0	7.0 4.0	16.0 3.0 6.0 9.0	2.0 9.0	5.0 6.0	.0 3.0 3.0 5.0	.0 .0	28.0
W WNW NW NNW	.0	1.0	18.0	17.0	35.0	25.0	4.0 5.0 .0 13.0	101.0
TOTAL	.0	103.0	396.0	384.0	213.0	92.0	24.0	1212.0
DATA M TEMPER	EASUREMENT H ATURE SENSOR	EIGHT ( SEPARA	M ABOVE G	RADE) ERS)		122.00 112.00		
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 1 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2183								

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: E

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	12.50 - 18.50	18.50 - 24.00	24.00 -	TOTAL
N NNE NE ENE	.0 .0 .0	2.0 4.0 5.0 1.0	13.0 6.0 6.0 3.0	11.0 2.0 1.0 .0	3.0 .0 .0	.0	.0	29.0 12.0 12.0 4.0
E ESE SE SSE	.0 .0 .0	7.0 8.0 15.0 9.0	3.0 11.0 43.0 33.0	2.0 1.0 42.0 19.0	.0 .0 6.0 4.0	.0 1.0 .0	.0 .0 .0	12.0 21.0 106.0 65.0
s ssw sw wsw	.0 .0 .0	7.0 8.0 3.0 2.0	11.0 7.0 5.0 3.0	7.0 5.0 10.0 6.0	.0 .0 2.0 9.0	1.0 .0 .0 2.0	.0 .0 .0	26.0 20.0 20.0 22.0
W WNW NW NNW	.0	2.0 3.0 3.0 3.0	1.0 4.0 15.0 22.0	4.0 14.0 17.0 25.0	7.0 10.0 5.0 4.0	2.0 1.0 .0	.0 3.0 .0	16.0 35.0 40.0 54.0
TOTAL	.0	82.0	186.0	166.0	50.0	7.0	3.0	494.0

DATA MEASUREMENT HE TEMPERATURE SENSOR	 · · · · · · · · · · · · · · · · · · ·	122.00 112.00
MISSING OBS. DURING VALID OBSER. DURING	, ,	1 2183

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: F

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	12.50 - 18.50	18.50 - 24.00	24.00 -	TOTAL
N NNE NE ENE	.0 .0 .0	4.0 .0 7.0 2.0	2.0 .0 .0	2.0 1.0 .0	1.0 .0 .0	.0 .0 .0	.0 .0 .0	9.0 1.0 7.0 2.0
e ese se sse	.0 .0 .0	6.0 3.0 12.0 7.0	1.0 2.0 7.0 18.0	.0 .0 .0 2.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	7.0 5.0 19.0 27.0
s ssw sw wsw	.0 .0 .0	12.0 8.0 3.0 5.0	13.0 3.0 3.0 .0	.0 2.0 .0 1.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	25.0 13.0 6.0 6.0
W WNW NW NNW	.0 .0 .0	5.0 3.0 8.0 3.0	5.0 8.0 15.0 9.0	3.0 2.0 5.0 6.0	.0 4.0 2.0 2.0	.0 .0 .0	.0 .0 .0	13.0 17.0 30.0 20.0
TOTAL	.0	88.0	86.0	24.0	9.0	.0	.0	207.0

DATA MEASUREMENT TEMPERATURE SENSO	•	•	122.00 112.00
		D (ALL STABILITIES D (ALL STABILITIES	-

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: G

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50		18.50 - 24.00	24.00 -	TOTAL
N NNE NE ENE	. 0 . 0 . 0	.0 .0 2.0	1.0 .0 .0	.0	.0	.0	.0	1.0 .0 2.0
E ESE SE SSE	.0.0.0	1.0 2.0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	1.0 2.0 .0
S SSW SW WSW	.0 .0 .0	.0 .0 .0	.0 1.0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 1.0 .0
W WNW NW NNW	.0 .0 .0	.0 .0 1.0	.0 2.0 1.0 2.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 2.0 2.0 2.0
TOTAL	.0	6.0	7.0	.0	.0	.0	. 0	13.0

DATA MEASUREMENT HEIGHT (M ABOVE GRADE) TEMPERATURE SENSOR SEPARATION (METERS)	122.00 112.00
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)	1 2183

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - APR/MAY/JUN 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 4/ 1/ 0] TO [2001/ 6/30/23]

PASQUILL STABILITY: ALL

	WIND SPEED	(MPH)							
WIND FROM	CALMS					18.50 - 24.00		TOTAL	
N	.0	14.0	58.0	74.0	14.0	5.0	.0	165.0	
NNE		12 0	34 0	36.0	4 0	. 0	. 0	86.0	
NE		16.0	34.0	21.0	4.0	.0	.0	75.0	
ENE		11.0	34.0	15.0	1.0	.0 1.0	.0	62.0	
E	.0	22.0	25.0	18.0	.0	.0	.0	65.0	
ESE	.0	30.0	46.0	14.0	1.0	1.0	.0	92.0	
SE	.0	38.0	127.0	143.0	43.0	.0		351.0	
SSE	.0	26.0	102.0	71.0	21.0	.0	.0	220.0	
S	.0						.0		
SSW	. 0	23.0	14.0	9.0	5.0	3.0	1.0	55.0	
SW			14.0	19.0	8.0	3.0	.0		
WSW	.0	8.0	14.0	18.0	21.0	7.0	2.0	70.0	
W	.0	9.0	13.0	30.0	39.0	12.0	4.0	107.0	
WNW	.0	7.0	32.0	45.0	60.0	42.0	9.0	195.0	
NW	.0	18.0	40.0	48.0	47.0	17.0	.0	170.0	
NNW	.0	11.0	68.0	108.0	75.0	44.0	14.0	320.0	
TOTAL	.0	283.0	697.0	685.0	352.0	136.0	30.0	2183.0	
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 122.00 TEMPERATURE SENSOR SEPARATION (METERS) 112.00									
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 1 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2183									

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: A

	WIND SPEED	(MPH)							
WIND FROM	CALMS	.60 - 3.50		7.50 - 12.50	12.50 - 18.50	18.50 - 24.00	24.00 -	TOTAL	
N NNE NE ENE	. 0 . 0 . 0	.0 .0 .0	53.0 7.0 2.0 2.0	3.0 6.0 .0	.0	.0	.0	56.0 13.0 2.0 2.0	
E ESE SE SSE	.0 .0 .0	.0 .0 .0 3.0	1.0 1.0 .0 25.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	1.0 1.0 .0 28.0	
s ssw sw wsw	.0 .0 .0	2.0 .0 1.0 1.0	107.0 34.0 11.0 3.0	5.0 10.0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	114.0 44.0 12.0 4.0	
W WNW NW NNW	.0 .0 .0	.0 .0 .0	8.0 9.0 14.0 15.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	8.0 9.0 14.0 16.0	
TOTAL	.0	8.0	292.0	24.0	.0	.0	.0	324.0	
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 10.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90									

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

2208

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: B

	WIND SPEED	(MPH)							
WIND FROM	CALMS					18.50 - 24.00	80.00	TOTAL	
N NNE NE ENE	. 0 . 0	1.0 .0	20.0 11.0 5.0 1.0	2.0	.0	.0	. 0 . 0	25.0 14.0 5.0 1.0	
E ESE SE SSE		.0	.0 .0 .0 2.0	.0	.0 .0 .0	.0	.0	.0 .0 .0 5.0	
S SSW SW WSW		1.0 3.0	32.0 10.0 2.0 7.0	1.0	.0	.0			
W WNW NW NNW	.0	1.0 5.0	.0 2.0 3.0 4.0	.0	.0 .0 .0	.0	.0	1.0 3.0 8.0 6.0	
TOTAL	.0	27.0	99.0	6.0	.0	.0	.0	132.0	
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 10.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90									
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 0 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2208									

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JUL/AUG/SEP 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: C

	WIND SPEED	(MPH)							
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	12.50 - 18.50	18.50 - 24.00	24.00 - 80.00	TOTAL	
N NNE NE ENE	.0	6.0 1.0	6.0 27.0 7.0 2.0	8.0 .0	.0	.0	.0		
E ESE SE SSE	.0	.0 4.0	.0 .0 .0 2.0		.0 .0 .0	.0 .0 .0	.0		
s ssw sw wsw	. 0		17.0 9.0 .0 3.0	.0 3.0 .0	.0 .0 .0	.0 .0 .0	.0	18.0	
W WNW NW NNW	.0	2.0 4.0 2.0 .0	2.0 1.0 .0 2.0	. 0 . 0 . 0	.0 .0 .0	.0 .0 .0	.0	5.0	
TOTAL	.0	52.0	78.0	11.0	.0	.0	.0	141.0	
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 10.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90									
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 0 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2208									

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: I

	WIND SPEED	(MPH)						
WIND FROM	CALMS			7.50 - 12.50		18.50 - 24.00		TOTAL
N NNE NE ENE	.0	17.0 21.0	91.0	75.0 .0	.0	. 0	.0	45.0
e ese se sse	.0 .0 .0	14.0	.0 2.0 .0 8.0	.0 .0 .0	.0 .0 .0	.0		16.0 16.0
s ssw sw wsw	.0	20.0 4.0	34.0	6.0 4.0 .0	.0	.0	.0 .0 .0	58.0 15.0
W WNW NW NNW	.0	6.0 2.0	5.0 2.0 6.0 11.0	.0	.0 .0 .0	.0	.0	9.0 8.0 8.0 13.0
TOTAL	. 0	220.0	338.0	88.0	.0	.0	.0	646.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 10.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
	G OBS. DURIN OBSER. DURIN							

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: E

	WIND SPEED	(MPH)							
WIND FROM	CALMS					18.50 -		TOTAL	
N NNE NE ENE	.0	54.0 54.0	9.0 107.0 43.0 3.0	.0	.0	.0 .0 .0	.0 .0 .0	29.0 161.0 97.0 33.0	
E ESE SE SSE	.0	22.0 33.0		.0	.0	.0 .0 .0	. 0 . 0	22.0 33.0	
S SSW SW WSW	.0	45.0 31.0	28.0 7.0		.0	.0		75.0 38.0	
W WNW WM NNW	.0	14.0 3.0 4.0 6.0	2.0 1.0 1.0	. 0	.0 .0 .0	.0 .0 .0	.0	4.0	
TOTAL	. 0	488.0	276.0	4.0	2.0	.0	.0	770.0	
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 10.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90									
MISSING VALID (	G OBS. DURIN OBSER. DURIN	G THIS	PERIOD (# PERIOD (#	ALL STABII	LITIES) LITIES)	0 2208			

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JUL/AUG/SEP 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: F

	WIND SPEED	(MPH)							
WIND FROM						18.50 - 24.00		TOTAL	
N NNE NE ENE	.0	21.0 43.0 25.0 17.0	.0 4.0 16.0 2.0	.0	.0	.0	.0	21.0 47.0 41.0 19.0	
e ese se sse	.0	14.0 13.0 5.0 9.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0	.0 .0 .0	13.0	
s ssw sw wsw	.0 .0 .0	6.0 4.0 4.0 3.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	6.0 4.0 4.0 3.0	
M MNM NM MNW	.0	3.0 .0 2.0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0	3.0 .0 2.0	
TOTAL	.0	169.0	22.0	.0	.0	.0	.0	191.0	
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 10.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90									
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 0 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2208									

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: G

	WIND SPEED	(MPH)						
WIND FROM	CALMS		3.50 - 7.50			18.50 - 24.00	24.00 -	TOTAL
N			.0	.0	.0		.0	1.0
NNE	. 0	.0	.0	.0	.0	.0	.0	. 0
NE	.0	.0	2.0	.0	.0	.0		2.0
ENE	.0	. 0	.0	. 0	.0	. 0	.0	.0
E	.0	1.0	.0	.0	.0	.0	.0	1.0
ESE	. 0	.0	.0	.0	.0	.0	.0	.0
SE	.0	.0	.0	.0	.0	.0	.0	.0
SSE	. 0	.0	.0	.0	.0	.0	.0	.0
S	.0	.0	.0	.0	.0	.0	.0	.0
SSW	.0	.0	.0	.0	.0	.0	.0	.0
SW	.0	. 0	.0	.0	.0	.0	.0	.0
WSW	.0	.0	.0	.0	.0	.0	.0	.0
W	.0	.0	.0	.0	.0	.0	.0	.0
WNW	.0	.0	.0	.0	.0	.0	.0	.0
NW	.0	. 0	.0	.0	.0	.0	.0	.0
WMM	.0	.0	.0	.0	.0	.0	.0	.0
TOTAL	.0	2.0	2.0	.0	.0	.0	.0	4.0
	EASUREMENT H ATURE SENSOR					10.00 50.90		
MISSIN	G OBS. DURIN	G THIS	PERIOD (A	ALL STABI	LITIES)	0		

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

2208

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: ALL

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	12.50 - 18.50	18.50 - 24.00	80.00	TOTAL
N NNE NE ENE	. 0 . 0	121.0 101.0	247.0	8.0 91.0 .0		.0 .0 .0	.0	459.0
E ESE SE SSE	.0	49.0	2.0 3.0 .0 44.0	.0	.0 .0 .0	.0	.0	59.0 52.0 58.0 140.0
s ssw sw wsw	.0	76.0 43.0	311.0 115.0 31.0 31.0	20.0	.0		.0	211.0 74.0
W WNW NW NNW	.0	14.0 15.0	17.0 15.0 24.0 33.0	. 0 . 0	.0 .0 .0	.0	.0	41.0 29.0 39.0 44.0
TOTAL	.0	966.0	1107.0	133.0	2.0	.0	.0	2208.0
DATA MI	EASUREMENT H ATURE SENSOR	EIGHT ( SEPARA	M ABOVE G TION (MET	RADE) ERS)		10.00 50.90		
	G OBS. DURIN OBSER. DURIN							

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: A

	WIND SPEED	(MPH)						
WIND FROM	CALMS				12.50 - 18.50			TOTAL
N NNE NE ENE		.0	6.0 1.0 .0 1.0	19.0 2.0	8.0 1.0 .0	.0		33.0 4.0 .0 3.0
E ESE SE SSE	.0 .0 .0	. 0 . 0		.0 2.0	.0 .0 .0 2.0	.0	.0 .0 .0	2.0 1.0 2.0 102.0
S SSW SW WSW	.0 .0 .0				5.0 6.0	.0 .0 .0		44.0 22.0 18.0 8.0
W WNW WN WNN	.0 .0 .0			8.0 15.0	18.0	.0 .0 3.0	. 0 . 0	7.0 18.0 37.0 23.0
TOTAL	.0	.0	96.0	163.0	62.0	3.0	.0	324.0
	EASUREMENT H ATURE SENSOR			•		60.00 50.90		
	G OBS. DURIN OBSER. DURIN							

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JUL/AUG/SEP 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: B

	WIND SPEEL	(MPH)							
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	12.50 - 18.50	18.50 - 24.00	24.00 -	TOTAL	
N NNE NE ENE	. 0 . 0	. 0 . 0	16.0 2.0 1.0	2.0	.0	1.0 .0 .0	. 0 . 0	28.0 4.0 1.0 5.0	
E ESE SE SSE	.0 .0 .0	.0 .0		.0	.0 .0 .0		.0	1.0 .0 .0 23.0	
S SSW SW WSW	.0.0.0	.0 .0 1.0 .0	19.0 2.0 2.0 2.0	1.0 2.0	1.0 1.0	.0		21.0 4.0 6.0 4.0	
W WNW NW NNW	.0	1.0 2.0	3.0 .0 4.0 4.0	2.0 6.0	1.0 5.0		. 0 . 0	8.0 4.0 17.0 6.0	
TOTAL	.0	4.0	73.0	37.0	17.0	1.0	.0	132.0	
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 60.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90									
MISSING VALID (	G OBS. DURI OBSER. DURI	NG THIS	PERIOD (A PERIOD (A	LL STABII LL STABII	LITIES) LITIES)	0 2208			

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JUL/AUG/SEP 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: C

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50		7.50 - 12.50	12.50 - 18.50	18.50 - 24.00		TOTAL
N NNE NE ENE	.0.0	1.0 .0 .0	3.0	11.0 3.0 1.0 3.0		.0	.0 .0 .0	26.0 21.0 4.0 3.0
E ESE SE SSE	.0 .0 .0	.0 .0 2.0 3.0	1.0 1.0 3.0 6.0	.0 .0 .0 9.0	.0 .0 .0	.0.0.0	.0 .0 .0	1.0 1.0 5.0 19.0
S SSW SW WSW	.0 .0 .0	5.0 1.0 .0 1.0	2.0	4.0 4.0 2.0	.0 .0 2.0	.0 .0 .0	.0 .0 .0	19.0 7.0 7.0 3.0
W WNW NW NNW	.0 .0 .0	.0 1.0 .0 1.0	4.0 1.0 2.0 5.0	.0 5.0 .0 1.0	1.0 1.0 3.0 .0	.0	.0 .0 .0	5.0 8.0 5.0 7.0
TOTAL	.0	15.0	67.0	43.0	16.0	.0	.0	141.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 60.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

MISSING OBS. DURING THIS PERIOD (ALL STABILITIES)

VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

0

2208

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: D

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 - 24.00		TOTAL
N NNE NE ENE	. 0 . 0	6.0 8.0	43.0 19.0	33.0 2.0	17.0 .0	5.0 1.0 .0	.0	98.0 100.0 29.0 29.0
E ESE SE SSE	. 0 . 0	6.0 7.0	9.0 5.0 21.0 25.0	.0 7.0	.0 .0 .0 12.0	.0	.0	11.0 35.0
s ssw sw wsw	. 0	4.0 3.0	9.0	22.0 6.0	7.0	.0		72.0 38.0 25.0 15.0
W WNW NW NNW	. 0 . 0	.0	2.0 5.0 2.0 4.0	11.0 10.0	7.0 13.0	1.0 8.0	.0 .0 2.0 .0	24.0 35.0
TOTAL	.0	73.0	192.0	227.0	135.0	17.0	2.0	646.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 60.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 0 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2208								

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: E

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 -	7.50 - 12.50	18.50	18.50 -	80.00	TOTAL
N NNE NE ENE	.0	7.0 14.0 8.0	16.0	30.0 56.0 2.0	1.0 .0 .0		.0 .0 .0	22.0
E ESE SE SSE	.0 .0 .0	4.0 5.0 7.0 10.0	3.0 6.0 9.0 29.0	.0 1.0 12.0 27.0	.0 .0 1.0 3.0	.0 .0 .0 1.0	.0 .0 .0	29.0
S SSW SW WSW	.0 .0 .0	4.0	32.0	35.0	7.0 8.0 2.0 2.0	.0		79.0 43.0
W WNW NW NNW	.0 .0 .0	7.0 1.0	9.0 7.0	5.0 7.0	8.0 3.0	.0 2.0 .0	. 0 . 0	31.0 18.0
TOTAL	.0	111.0	367.0	245.0	42.0	3.0	2.0	770.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 60.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
	G OBS. DURIN OBSER. DURIN							

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: F

	WIND SPEED	(MPH)						
WIND FROM	CALMS			12.50	18.50	18.50 - 24.00	80.00	TOTAL
N NNE	.0	3.0	12.0	3.0	.0	.0	.0	18.0 61.0
NE ENE	.0	9.0		.0	.0	.0	.0	14.0
e ese se sse	. 0 . 0	$\frac{4.0}{4.0}$	.0 1.0	.0 .0 4.0 .0	.0 .0 .0	.0	.0	2.0 4.0 9.0 5.0
s ssw sw	. 0 . 0 . 0	1.0 4.0 7.0	2.0 7.0 8.0	1.0	.0 .0 .0	.0	. 0 . 0 . 0	4.0 11.0 15.0
WSW W WNW		3.0	4.0 1.0 1.0				.0	6.0 5.0 4.0
NW NNW	.0	6.0	4.0 3.0	.0	.0		.0	
TOTAL	. 0	84.0	90.0	17.0	.0	.0	.0	191.0
	EASUREMENT H ATURE SENSOR					60.00 50.90		
	G OBS. DURIN OBSER. DURIN							

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: G

	WIND SPEE	ED (MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 -	12.50 - 18.50	18.50 - 24.00	24.00 -	TOTAL
N NNE NE ENE	.0	.0 .0 .0	1.0 .0 .0	2.0	.0	.0	.0 .0 .0	3.0 .0 .0
E ESE SE SSE	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0
S SSW SW WSW	.0 .0 .0	.0 .0 1.0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0	.0 .0 .0	.0 .0 1.0
W WNW WW WNN	.0.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0
TOTAL	.0	1.0	1.0	2.0	.0	.0	.0	4.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 60.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

2208

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: ALL

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 - 24.00		TOTAL
N	.0	13.0	67.0	101.0	73.0	6.0	.0	260.0
NNE	.0	35.0	222.0	104.0	19.0	1.0	.0	381.0
NE	.0	25.0	40.0	5.0	.0	.0	.0	70.0
ENE	.0		24.0	10.0	.0	.0		66.0
E	. 0			1.0		.0		33.0
ESE	.0	15.0	13.0	1.0	.0	.0	. 0	
SE	.0	20.0	34.0	25.0	1.0	.0	.0	80.0
SSE	.0	21.0	120.0	136.0	19.0	1.0	.0	297.0
S		16.0	99.0	114.0	19.0	.0	2.0	250.0
SSW		13.0	63.0	68.0	17.0	.0	.0	
SW	.0					.0		
WSW	. 0	14.0	30.0	21.0	7.0	.0	.0	72.0
W	.0	13.0	39.0	23.0	7.0	1.0	.0	83.0
WNW	.0						.0	
NW	.0	9.0	20.0	38.0	42.0	11.0	2.0	122.0
NNW	.0	16.0	29.0	29.0	25.0	1.0	.0	100.0
TOTAL	.0	288.0	886.0	734.0	272.0	24.0	4.0	2208.0
DATA ME	ASUREMENT H TURE SENSOR	EIGHT (1 SEPARA	M ABOVE O	RADE) ERS)		60.00 50.90		
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 0 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2208								

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: A

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	12.50 - 18.50	18.50 - 24.00	24.00 -	TOTAL
N	.0	.0	.0	.0	.0	.0	.0	.0
NNE	.0	.0	.0	.0	.0	.0	.0	. 0
NE	. 0	.0	.0	.0	.0	.0	.0	.0
ENE	.0	.0	.0	.0	.0	.0	.0	.0
E	.0	. 0	.0	.0	.0	.0	.0	.0
ESE	. 0	. 0	.0	.0	.0	.0	.0	.0
SE	.0	.0	.0	10.0	3.0	.0	.0	13.0
SSE	. 0	.0	.0	.0	.0	.0	.0	.0
S	.0	.0	.0	.0	.0	.0	.0	.0
SSW	.0	.0	.0	.0	1.0	.0	.0	1.0
SW	.0	.0	.0	.0	.0	.0	. 0	.0
WSW	.0	. 0	.0	.0	.0	.0	.0	.0
W	. 0	.0	. 0	.0	.0	.0	.0	.0
WNW	.0	.0	.0	.0	.0	1.0	.0	1.0
NW	.0	.0	.0	.0	.0	. 0	.0	.0
NNW	.0	.0	.0	.0	.0	.0	.0	.0
TOTAL	. 0	.0	.0	10.0	4.0	1.0	.0	15.0
DATA M	EASUREMENT H	EIGHT (	M ABOVE (	GRADE)		122.00		

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

TEMPERATURE SENSOR SEPARATION (METERS)

MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

112.00

2208

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JUL/AUG/SEP 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: B

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50		7.50 - 12.50		18.50 - 24.00		TOTAL
N	.0	.0	. 0	_	2.0	.0	. 0	3.0
NNE	. 0	.0	.0	.0	. 0	.0	.0	.0
NE	. 0	.0	.0	.0	.0	.0	.0	.0
ENE	.0	. 0	.0	. 0	.0	.0	.0	.0
E	. 0	.0	.0	.0	.0	.0	.0	.0
ESE	.0	.0	.0	.0	.0	.0	.0	.0
SE	.0	.0	5.0	19.0		.0	.0	26.0
SSE	.0	.0		1.0		.0	.0	4.0
S	. 0	.0	.0	2.0	2.0	1.0	.0	5.0
SSW	.0	.0	.0		4.0	.0	.0	6.0
SW	. 0	.0	.0	.0	. 0	.0	.0	.0
WSW	.0	.0	.0	1.0	.0	.0	.0	1.0
W	.0	.0	. 0	1.0	1.0	.0	.0	2.0
WNW	.0	.0	.0	2.0	5.0	2.0	.0	9.0
NW	.0	.0	.0	1.0	3.0	1.0	.0	5.0
MMM	. 0	.0	.0	2.0	7.0	.0	.0	9.0
TOTAL	. 0	.0	6.0	32.0	28.0	4.0	.0	70.0
	EASUREMENT H ATURE SENSOF		M ABOVE G			122.00 112.00		

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

MISSING OBS. DURING THIS PERIOD (ALL STABILITIES)

VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

0

2208

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JUL/AUG/SEP 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: C

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	12.50 -	18.50 - 24.00	24.00 -	TOTAL
N NNE NE ENE	.0	.0 .0 .0			.0	.0	.0	5.0 1.0 1.0
E ESE SE SSE	. 0 . 0 . 0	.0 .0 .0	1.0 .0 21.0 8.0	.0 2.0 13.0 10.0	.0 .0 8.0 5.0	.0 .0 .0	.0 .0 .0	1.0 2.0 42.0 23.0
s ssw sw wsw	. 0 . 0 . 0	.0 .0 .0	5.0 1.0 1.0 2.0	4.0 2.0 3.0 .0	3.0	.0 1.0 .0	.0 .0 .0	12.0 7.0 6.0 3.0
W WNW NW NNW	.0 .0 .0	.0	.0 1.0 2.0 6.0	4.0 9.0 2.0 14.0	5.0 7.0 3.0 13.0		.0 .0 .0	10.0 20.0 8.0 35.0
TOTAL	.0	.0	51.0	67.0	51.0	8.0	.0	177.0

DATA MEASURE TEMPERATURE			122.00 112.00
MISSING OBS. VALID OBSER.			0 2208

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JUL/AUG/SEP 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: D

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	12.50 - 18.50	18.50 - 24.00	24.00 -	TOTAL
N	. 0	3.0	58.0	35.0	31.0	12.0	.0	139.0
NNE	.0	6.0	15.0	6.0	2.0	.0	.0	29.0
NE	.0	10.0	14.0	13.0	2.0	.0		37.0
ENE	.0	8.0	10.0	2.0	.0	.0	.0	20.0
E	.0	8.0	15.0	1.0	.0	.0	.0	24.0
ESE	.0	9.0	17.0	7.0	2.0	1.0	.0	36.0
SE	. 0	10.0	45.0	58.0	35.0	2.0	1.0	151.0
SSE	.0	5.0	54.0	50.0	46.0	.0	.0	
S	.0	6.0	19.0	26.0	18.0	1.0 6.0	. 0	70.0
SSW	.0	2.0	11.0	8.0	17.0	6.0	.0	
SW	.0	1.0	13.0	10.0	9.0	.0	.0	
WSW	.0	.0	10.0	10.0	10.0	.0 2.0	.0	
W	. 0	2.0	6.0	20.0	11.0	9.0	.0	48.0
WNW	.0	3.0	8.0	19.0	26.0	12.0	6.0	74.0
NW	.0	2.0	12.0	12.0	16.0	. 0	1.0	43.0
NNW	. 0	5.0	31.0	39.0	54.0	28.0	3.0	160.0
TOTAL	.0	80.0	338.0	316.0	277.0	73.0	11.0	1095.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 122.00 TEMPERATURE SENSOR SEPARATION (METERS) 112.00								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 0 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2208								

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: F

	WIND SPEED	(MPH)							
WIND FROM	CALMS					18.50 - 24.00		TOTAL	
N NNE NE ENE	. 0 . 0	9.0 7.0	20.0 8.0 1.0 4.0	20.0 2.0 .0	1.0	. 0 . 0	.0	57.0 20.0 8.0 9.0	
E ESE SE SSE	. 0 . 0	5.0 18.0	1.0 2.0 19.0 31.0	7.0 26.0	2.0	.0	.0 .0 .0 2.0	18.0 65.0	
S SSW SW WSW	.0	10.0 20.0 9.0 6.0	38.0 32.0 21.0 10.0	16.0 11.0	6.0	1.0	.0	71.0 48.0	
W WNW NW NNW	. 0 . 0	8.0 7.0	18.0 17.0	3.0 5.0	3.0 4.0	4.0 .0 .0	.0	32.0 33.0	
TOTAL	.0	162.0	266.0	235.0	57.0	7.0	4.0	731.0	
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 122.00 TEMPERATURE SENSOR SEPARATION (METERS) 112.00									
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 0 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2208									

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JUL/AUG/SEP 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: F

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 - 24.00		TOTAL
N NNE NE ENE	.0	5.0 5.0 3.0 1.0			.0	.0 .0 .0	.0 .0 .0	12.0 6.0 4.0 1.0
E ESE SE SSE	.0 .0 .0	1.0 4.0 4.0 7.0	.0 .0 1.0 2.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	1.0 4.0 5.0 9.0
s ssw sw wsw	.0 .0 .0	2.0 8.0 3.0 2.0	5.0 5.0 1.0 1.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0	7.0 13.0 4.0 3.0
W WNW NW NNW	. 0	6.0	2.0 6.0	1.0 4.0 2.0 7.0	1.0	.0 .0 .0	.0 .0 .0	6.0 10.0 14.0 21.0
TOTAL	.0	58.0	46.0	15.0	1.0	.0	.0	120.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 122.00 TEMPERATURE SENSOR SEPARATION (METERS) 112.00								

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

2208

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JUL/AUG/SEP 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: G

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	12.50 - 18.50	18.50 - 24.00	24.00 -	TOTAL
N NNE NE ENE	.0.0	.0	.0 .0 .0	.0 .0 .0	.0	.0	.0 .0 .0	.0
E ESE SE SSE	. 0 . 0 . 0	. 0 . 0 . 0	.0.0	.0 .0 .0	.0	.0	.0 .0 .0	.0 .0 .0
s ssw sw wsw	. 0 . 0 . 0	.0.0	.0	. 0 . 0 . 0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0
W WNW NW NNW	.0 .0 .0	.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0
TOTAL	.0	.0	. 0	. 0	.0	.0	.0	.0

DATA MEASUREMENT HEIGHT (M ABOVE GRADE) TEMPERATURE SENSOR SEPARATION (METERS)						
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)	0 2208					

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - JUL/AUG/SEP 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/ 7/ 1/ 0] TO [2001/ 9/30/23]

PASQUILL STABILITY: ALL

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	18.50	18.50 - 24.00	24.00 -	TOTAL
N NNE NE ENE	. 0 . 0	20.0 20.0	25.0 17.0	60.0 8.0 13.0	36.0 3.0 .0		.0	56.0 50.0
E ESE SE SSE	.0	32.0	91.0	126.0	50.0	2.0	.0 .0 1.0 2.0	302.0
S SSW SW WSW	.0	30.0 13.0	49.0 36.0	28.0 24.0	27.0 17.0	3.0 8.0 1.0 2.0	. 0	
W WNW NW NNW	.0	14.0 15.0	29.0 37.0	37.0 22.0	42.0 26.0	18.0 2.0	2.0 6.0 1.0 3.0	146.0 103.0
TOTAL	.0	300.0	707.0	675.0	418.0	93.0	15.0	2208.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 122.00 TEMPERATURE SENSOR SEPARATION (METERS) 112.00								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 0 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2208								

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: A

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	12.50 - 18.50	18.50 - 24.00	24.00 -	TOTAL
N NNE NE ENE	.0	. 0 . 0	4.0 .0 .0	1.0 .0	.0		.0	6.0 1.0 .0
E ESE SE SSE	. 0 . 0	. 0 . 0	.0 .0 .0 28.0	.0	.0 .0 .0	.0	. 0	.0
S SSW SW WSW	. 0 . 0	2.0 .0 .0	17.0 1.0 1.0 3.0	.0	.0	.0	.0	21.0 1.0 2.0 4.0
W WNW WW WINN	.0	.0	4.0 13.0 8.0 11.0	4.0 10.0	.0	.0	.0	18.0
TOTAL	.0	4.0	90.0	28.0	.0	.0	.0	122.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 10.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 4 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2204								

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY:

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50		7.50 - 12.50		18.50 - 24.00	24.00 -	TOTAL
N NNE NE ENE	. 0 . 0 . 0	.0 1.0 .0	6.0 .0 .0	3.0 4.0 .0	.0	.0	.0	9.0 5.0 .0
E ESE SE SSE	.0 .0 .0	.0 .0 .0	.0 .0 1.0 6.0	.0 .0 .0	.0 .0 .0	.0	.0	.0 .0 1.0 7.0
S SSW SW WSW	. 0 . 0 . 0	.0 .0 .0	20.0 7.0 .0 4.0	4.0 1.0 1.0 2.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	24.0 8.0 1.0 6.0
W WNW NW NNW	.0 .0 .0	.0 1.0 .0 1.0	6.0 5.0 8.0 7.0	.0 4.0 9.0 .0	.0 .0 .0	.0 .0 .0	.0	6.0 10.0 17.0 8.0
TOTAL	.0	4.0	70.0	28.0	.0	.0	.0	102.0
DATA M	EASUREMENT H	10.00						

TEMPERATURE SENSOR SEPARATION (METERS) 50.90

MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 4

VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2204

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: C

	WIND SPEED	(MPH)						
WIND FROM	CALMS				12.50 -	18.50 -		TOTAL
N NNE NE ENE	. 0 . 0		5.0	1.0	.0	.0		6.0
E ESE SE SSE	. 0 . 0 . 0	.0 .0	1.0 .0 .0 2.0	.0	.0 .0 .0	.0	.0	
S SSW SW WSW			18.0 9.0 2.0 3.0	3.0	.0	.0 .0 .0	.0	12.0
W WNW WN		1.0 1.0		2.0 3.0	. 0 . 0	.0 .0 .0	.0	17.0 8.0 9.0 11.0
TOTAL	.0	15.0	76.0	22.0	. 0	.0	.0	113.0
DATA M	DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 10.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90							
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 4 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2204								

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: D

	WIND SPEEL	(MPH)							
WIND FROM	CALMS				12.50 -	18.50 - 24.00		TOTAL	
N NNE NE ENE	.0	25.0 23.0	71.0 62.0 4.0 1.0	14.0	1.0	.0	.0	96.0 101.0 27.0 9.0	
E ESE SE SSE	. 0			.0 .0 .0 7.0	.0	.0	.0 .0 .0	17.0	
s ssw sw wsw	.0	18.0 12.0	51.0 22.0 21.0 43.0	6.0	.0 .0	.0 .0 .0	.0 .0 .0	46.0 37.0	
W WNW NW NNW	.0	3.0 10.0	71.0	10.0	. 0 . 0		.0	73.0 57.0 110.0 85.0	
TOTAL	. 0	227.0	529.0	117.0	1.0	.0	.0	874.0	
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 10.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90									
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 4 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2204									

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: E

	WIND SPEED	(MPH)						
WIND FROM	CALMS				18.50	18.50 -		TOTAL
N NNE NE ENE	.0	20.0 41.0 48.0	12.0 37.0	.0 2.0 1.0	.0	.0	.0	
E ESE SE SSE	.0	22.0 14.0		.0	.0 .0 .0	. 0 . 0	.0 .0 .0	23.0 15.0
s ssw sw wsw	.0	43.0 39.0	67.0 16.0 8.0 7.0	2.0			. 0 . 0 . 0	61.0
W WNW NW NNW	. 0 . 0	6.0 7.0	2.0 14.0 14.0 4.0	. 0 . 0	. 0 . 0	.0	.0 .0 .0	-
TOTAL	.0	430.0	229.0	15.0	.0	.0	.0	674.0
DATA M TEMPER	EASUREMENT H ATURE SENSOR	EIGHT ( SEPARA	M ABOVE G TIM) NOIT	RADE) ERS)		10.00 50.90		
	G OBS. DURIN							

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: F

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 -		TOTAL
N NNE NE ENE	. 0 . 0	78.0 44.0	.0 17.0 13.0	.0	.0	.0	.0 .0 .0	25.0 95.0 57.0 11.0
e ese se sse	.0	5.0 6.0 4.0 16.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0		5.0 6.0 4.0 16.0
s ssw sw wsw		18.0 13.0 10.0 8.0	3.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	13.0 10.0
W WNW NW NNW	.0	3.0 6.0 5.0 8.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	3.0 6.0 5.0 8.0
TOTAL	.0	259.0	34.0	.0	.0	.0	.0	293.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 10.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 4								

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: G

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 - 24.00		TOTAL
N NNE NE ENE	.0	9.0 4.0	2.0 4.0 2.0	.0	.0 .0 .0	.0		4.0 13.0 6.0 2.0
E ESE SE SSE	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0
s ssw sw wsw	.0	1.0 .0 .0	.0	.0 .0 .0	.0 .0 .0	.0	.0 .0 .0	1.0 .0 .0
W WNW WNN	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0	.0	.0 .0 .0
TOTAL	.0	18.0	8.0	.0	.0	.0	.0	26.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 10.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 4 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2204								

BASIC METEOROLOGICAL OBSERVATIONS AT 10.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: ALL

	WIND SPEED	(MPH)						
WIND FROM	CALMS				18.50	18.50 - 24.00		TOTAL
N NNE NE ENE	. 0 . 0	154.0 119.0	103.0 125.0 51.0 6.0	16.0 22.0 1.0	1.0 .0 .0	.0	.0 .0 .0	183.0 301.0 171.0 48.0
e ese se sse	. 0 . 0	43.0 33.0	2.0 5.0 4.0 65.0	.0	.0 .0 .0	.0	.0	41.0 48.0 37.0 150.0
s ssw sw wsw	. 0	74.0 61.0	32.0	27.0 12.0 6.0 10.0	.0	.0	.0 .0 .0	141.0 99.0
W WNW NW NNW	. 0 . 0	17.0 23.0	81.0 81.0 106.0 84.0	20.0	.0	.0		
TOTAL	.0	957.0	1036.0	210.0	1.0	.0	.0	2204.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 10.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 4 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2204								

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: A

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 -		TOTAL
N NNE NE ENE	. 0 . 0	.0 .0		1.0	3.0 .0 .0	.0	.0	4.0 1.0 .0
E ESE SE SSE		. 0 . 0		.0 2.0	.0 .0 .0		.0	3.0
s ssw sw wsw	. 0 . 0	1.0 .0	1.0 1.0 .0	.0 1.0	.0	.0		10.0 2.0 1.0 2.0
W WNW NW NNW			.0 1.0 .0	4.0 2.0	6.0 13.0	3.0	.0 .0 3.0	14.0 28.0
TOTAL	. 0	2.0	21.0	43.0	29.0	24.0	3.0	122.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 60.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 4 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2204								

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: B

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 - 24.00		TOTAL
N NNE NE ENE	.0	.0	.0	. 0 . 0	.0	1.0 .0 .0	. 0 . 0	11.0 .0 .0
E ESE SE SSE		.0	.0 1.0	.0	.0 .0 .0 2.0	.0	.0 .0 .0	.0 .0 1.0 16.0
s ssw sw wsw	.0 .0 .0	. 0 . 0 . 0	5.0 .0 .0	7.0 2.0 3.0 .0	3.0	.0 .0 .0 2.0		14.0 5.0 4.0 3.0
W WNW NW NNW	.0	.0			4.0 5.0	.0 3.0 11.0	1.0	5.0 14.0 22.0 6.0
TOTAL	.0	2.0	18.0	35.0	28.0	17.0	2.0	102.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 60.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 4 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2204								

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: C

	WIND SPEED	(MPH)						
WIND FROM	CALMS				18.50	18.50 - 24.00	80.00	TOTAL
N NNE NE ENE	. 0 . 0	.0	1.0	4.0	4.0 .0 .0	.0	.0	6.0
e ese se sse	.0	1.0	.0	.0	.0	.0	.0	
S SSW SW WSW	.0 .0	.0 .0	2.0 2.0	5.0 3.0	1.0	.0 .0 .0 1.0	.0	18.0 9.0 6.0 5.0
W WNW NW NNW	.0	.0	1.0	5.0 .0	2.0 4.0	3.0 4.0	.0 .0 2.0 1.0	11.0 14.0
TOTAL	.0	4.0	35.0	36.0	23.0	12.0	3.0	113.0
	EASUREMENT H ATURE SENSOR					60.00 50.90		
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 4 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2204								

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: D

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	7.50 - 12.50	18.50	18.50 - 24.00	80.00	TOTAL
N NNE NE	. 0 . 0 . 0	1.0 12.0 12.0	22.0 28.0 14.0	50.0 21.0 2.0	19.0 3.0 .0	9.0	3.0 .0 .0	64.0
E ESE SE SSE	.0	6.0	1.0 11.0 5.0 14.0	6.0	1.0	.0 .0 .0 2.0	.0 .0 .0	
s ssw sw wsw	. 0 . 0	8.0	10.0	13.0	12.0	.0 1.0 .0 6.0	.0	44.0 21.0
W WNW NW NNW	.0	1.0 4.0	3.0 9.0	26.0 20.0	37.0 58.0	15.0 29.0	.0 4.0 8.0 2.0	86.0 128.0
TOTAL	.0	107.0	186.0	256.0	232.0	76.0	17.0	874.0
	EASUREMENT H ATURE SENSOR					60.00 50.90		
	G OBS. DURIN OBSER. DURIN							

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - OCT/NOV/DEC 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: E

	WIND SPEED	(MPH)						
WIND FROM	CALMS						80.00	TOTAL
N NNE NE ENE	.0 .0	17.0 15.0	26.0 53.0 16.0	21.0 3.0	2.0 1.0 .0	.0 .0 .0	.0	45.0 92.0 34.0 8.0
ESE	.0	7.0 5.0	4.0 3.0 2.0 32.0	2.0 1.0	.0 .0 .0 4.0	.0	.0	
S SSW SW WSW	. 0 . 0	8.0 12.0	42.0 34.0 27.0 16.0	35.0 11.0	11.0 10.0 1.0 3.0		.0	108.0 88.0 52.0 42.0
W WNW NW NNW	.0	7.0 2.0	6.0 6.0	10.0 17.0	7.0 9.0	1.0	.0 1.0 .0	32.0 34.0
TOTAL	.0	139.0	285.0	195.0	50.0	4.0	1.0	674.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 60.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 4 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2204								

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - OCT/NOV/DEC 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: F

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 - 24.00		TOTAL
N NNE NE ENE	.0	18.0 9.0	1.0	8.0	. 0 . 0			
E ESE SE SSE	.0	7.0 3.0 5.0 7.0	1.0 .0 .0 5.0	.0	.0 .0 .0		.0	8.0 3.0 5.0 12.0
s ssw sw wsw	.0	9.0 8.0	25.0 21.0 13.0 4.0	11.0 5.0	.0	.0	.0 .0 .0	41.0 26.0
W WNW NW NNW	.0	4.0 4.0	.0 1.0 1.0 3.0	1.0	.0	.0	.0	7.0 6.0 5.0 7.0
TOTAL	. 0	111.0	146.0	36.0	.0	.0	.0	293.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 60.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
	NG OBS. DURIN OBSER. DURIN							

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: G

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 - 24.00		TOTAL
N NNE NE ENE	.0 .0	3.0 2.0 2.0 .0	.0	1.0	.0 .0 .0	.0	.0	3.0 9.0 2.0
e ese se sse	.0	.0	.0 1.0 .0	.0 .0 .0	.0 .0 .0	.0	.0	.0 1.0 .0 2.0
s ssw sw wsw	.0 .0 .0	.0	1.0 1.0 .0	.0 .0 .0	.0 .0 .0	.0	.0 .0 .0	1.0 1.0 .0
W WNW NW NNW	. 0 . 0	2.0 .0 2.0 2.0		.0 .0 1.0 .0	.0	.0 .0 .0	.0 .0 .0	2.0 .0 3.0 2.0
TOTAL	.0	15.0	9.0	2.0	.0	.0	.0	26.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 60.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 4 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2204								

INDIAN POINT (UNITS 2 & 3) - JOINT FREQUENCY DISTRIBUTIONS - OCT/NOV/DEC 2001

BASIC METEOROLOGICAL OBSERVATIONS AT 60.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: ALL

	WIND SPEED	(MPH)						
WIND FROM	CALMS							TOTAL
N							3.0	
NNE							.0	
NE			31.0	5.0	.0		.0	
ENE	. 0	19.0	9.0	1.0	.0	.0	.0	29.0
E	.0	13.0	6.0		.0	.0	.0	
ESE	.0	17.0	15.0	8.0	1.0	.0	.0	
SE		16.0	9.0	9.0	1.0	.0	.0	35.0
SSE	.0	37.0	82.0	72.0	16.0	2.0	.0	209.0
S	.0	50.0	126.0	68.0	18.0	1.0	.0	263.0
SSW	.0	26.0	69.0	66.0	27.0	2.0	.0	190.0
SW	.0				8.0		.0	110.0
WSW	. 0	18.0	27.0	40.0	23.0	11.0	.0	119.0
W	.0	19.0	23.0	42.0	33.0	7.0	.0	124.0
WNW	.0	12.0	13.0	51.0	56.0	25.0	6.0	163.0
NW	.0	12.0	22.0	43.0	89.0	54.0	14.0	234.0
NNW		17.0	13.0	37.0	53.0	20.0	3.0	143.0
TOTAL	.0	380.0	700.0	603.0	362.0	133.0	26.0	2204.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 60.00 TEMPERATURE SENSOR SEPARATION (METERS) 50.90								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 4 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2204								

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: A

	WIND SPEED	(MPH)						
WIND FROM	CALMS				12.50 - 18.50	18.50 - 24.00	24.00 -	TOTAL
N NNE NE ENE	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0	.0		.0 .0 .0	.0
E ESE SE SSE	.0 .0 .0	.0 .0 .0	.0	.0 .0 .0	.0 .0 .0	.0	.0	.0
S SSW SW WSW	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0	.0 .0 .0	.0 .0 .0	.0 .0 .0
W WNW NW NNW	.0 .0 .0	.0 .0 .0	.0.0	.0 .0 .0	.0 .0 .0	.0 1.0 .0		
TOTAL	.0	.0	.0	.0	.0	1.0	.0	1.0
	EASUREMENT H ATURE SENSOF					122.00 112.00		
	G OBS. DURIN OBSER. DURIN		•			4 2204		

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: B

	WIND SPEED	(MPH)						
WIND FROM			3.50 - 7.50		12.50 - 18.50	18.50 -		TOTAL
N NNE NE ENE	. 0 . 0		.0	.0	1.0 .0 .0	.0	.0	1.0 .0 .0
E ESE SE SSE	.0 .0 .0	. 0 . 0	.0	.0 8.0	.0 .0 1.0 1.0	.0		.0 .0 11.0 3.0
S SSW SW WSW	.0 .0 .0	.0 .0 .0	.0	.0 .0 .0	.0	.0 .0 1.0 1.0	.0	.0 .0 1.0 2.0
W WNW NW NNW	.0 .0 .0	.0 .0 .0	. 0 . 0	3.0 .0 .0	2.0 1.0	2.0	1.0	5.0 1.0
TOTAL	.0	. 0	2.0	14.0	8.0	6.0	1.0	31.0
	DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 122.00 TEMPERATURE SENSOR SEPARATION (METERS) 112.00							
MISSIN VALID	G OBS. DURIN OBSER. DURIN	G THIS	PERIOD (A	ALL STABI ALL STABI	LITIES) LITIES)	4 2204		

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: C

	WIND SPEED	(MPH)						
WIND FROM					12.50 - 18.50	18.50 - 24.00	24.00 ~ 80.00	TOTAL
N	.0	.0	.0		.0	.0	.0	.0
NNE	.0	.0	. 0	.0	.0	.0	.0	.0
NE ENE	.0	.0	.0 .0	.0	.0		. 0 . 0	.0
E				.0	.0		.0	.0
ESE SE	. 0	.0	. 0	1.0	.0	.0	. 0	1.0
SSE	. 0 . 0	.0	1.0	9.0 3.0		.0	.0	
S		.0	.0			.0	.0	4.0
SSW	. 0	.0	.0	.0	.0	.0	.0	.0
SW WSW	. 0 . 0	. 0 . 0	. 0 . 0	1.0 1.0	.0 5.0	1.0	.0	2.0 6.0
W	. 0	.0					1.0	16.0
WMW	.0	.0	1.0	1.0		14.0		28.0
NNW NNW	. 0 . 0	. 0 . 0	. 0 . 0	3.0 1.0	4.0 10.0	5.0 2.0	.0 1.0	
TOTAL	. 0	.0	10.0	25.0	39.0	27.0	9.0	110.0
	EASUREMENT H ATURE SENSOR					122.00 112.00		
	G OBS. DURIN		,		LITIES)	4		

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: D

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50	3.50 - 7.50	12.50	18.50		24.00 -	TOTAL
N NNE NE ENE	. 0 . 0	5.0 2.0	23.0 9.0 12.0	34.0 4.0 1.0	8.0 .0 .0		.0	18.0 15.0
E ESE SE SSE	.0	5.0 14.0	8.0 44.0	13.0 31.0	2.0	4 0	0	21.0 28.0 109.0 101.0
S SSW SW WSW	. 0 . 0	9.0 5.0	11.0 3.0 10.0 8.0	13.0 26.0	14.0 28.0	2.0 7.0	.0 1.0 6.0 2.0	42.0 82.0
W WNW WN WNN	.0 .0	2.0 2.0	14.0 5.0	27.0 13.0	71.0 36.0	29.0 45.0 25.0 8.0	13.0 33.0 2.0 4.0	131.0 192.0 83.0 116.0
TOTAL	.0	86.0	227.0	324.0	355.0	140.0	61.0	1193.0
DATA M TEMPER	EASUREMENT H ATURE SENSOR	EIGHT ( SEPARA	M ABOVE G TION (MET	RADE) ERS)		122.00 112.00		
	G OBS. DURIN OBSER. DURIN							

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: E

	WIND SPEED	(MPH)						
	CALMS	3.50			18.50		80.00	TOTAL
N	. 0	3.0	16.0	10.0	1.0	. 0	.0	30.0
NNE	.0 .0	6.0	4.0	.0	.0	.0	.0	10.0
NE	.0	6.0	2.0	1.0	.0	.0	.0	9.0
ENE	.0	5.0	5.0	.0	.0	.0	.0	10.0
E	.0	6.0	2.0	1.0	2.0	.0	.0	11.0
ESE	.0	8.0	4.0	.0	1.0	.0	.0	13.0
SE	.0	17.0	48.0	19.0	8.0	3.0	.0	95.0
SSE	. 0	25.0	69.0	44.0	18.0	3.0	.0	159.0
S	.0	14.0	35.0	55.0	11.0	3.0	.0	118.0
SSW	.0	17.0	21.0	21.0	9.0	.0	.0	68.0
SW		10.0	14.0	6.0	7.0	.0	.0	37.0
WSW	.0	9.0	7.0	6.0	1.0	1.0	.0	24.0
W	. 0	9.0	4.0	5.0	6.0	.0	.0	24.0
WNW	. 0	6.0	10.0	5.0	2.0	1.0	. 0	24.0
NW	.0	5.0	16.0	17.0	.0	.0	. 0	38.0
NNW	. 0	11.0	17.0	18.0	5.0	.0	.0	51.0
TOTAL	.0	157.0	274.0	208.0	71.0	11.0	.0	721.0
	DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 122.00							
TEMPER	ATURE SENSOR	. SEPARA	TION (ME)	TEKS)		112.00		
	G OBS. DURIN OBSER. DURIN							

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: F

	WIND SPEED	(MPH)						
WIND FROM	CALMS					18.50 - 24.00		TOTAL
N					.0		.0	
NNE			8.0				.0	14.0
NE		1.0	2.0		.0			
ENE	.0	1.0	.0	.0	.0	.0	.0	1.0
E	.0	3.0	.0	.0	.0	.0	.0	3.0
ESE	.0			.0	.0	.0	.0	6.0
SE	.0	5.0	4.0	.0	.0	.0	.0	9.0
SSE	.0	6.0	3.0	8.0	.0	.0	.0	17.0
S	.0	13.0	10.0	4.0	.0	.0	.0	27.0
SSW	.0	6.0	8.0	2.0	1.0	.0	.0	17.0
SW	.0	3.0	7.0	1.0	.0	.0	.0	11.0
WSW	.0		1.0		.0	.0	.0	
W	.0	1.0	1.0	.0	2.0	. 0	.0	4.0
WNW			3.0			.0		6.0
NW	.0		4.0		.0	.0		
NNW	. 0	.0 2.0	9.0	1.0	.0		.0	
TOTAL	.0	56.0	65.0	20.0	4.0	.0	.0	145.0
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 122.00 TEMPERATURE SENSOR SEPARATION (METERS) 112.00								
MISSIN	G OBS. DURIN	G THIS	PERIOD (A	LL STABI	LITIES)	4		

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: G

	WIND SPEED	(MPH)						
WIND FROM	CALMS	.60 - 3.50		7.50 - 12.50	12.50 - 18.50	18.50 ~ 24.00	24.00 -	TOTAL
N	.0	.0	.0	.0	.0	.0	.0	.0
NNE	. 0	. 0	.0	.0	.0	.0	.0	. 0
NE	.0	.0	.0	.0	.0	.0	.0	.0
ENE	.0	.0	.0	.0	.0	.0	.0	.0
E	.0	.0	.0	.0	.0	.0	.0	.0
ESE	.0	.0	.0	.0	.0	.0	.0	.0
SE	.0	.0	.0	.0	.0	.0	.0	. 0
SSE	.0	.0	.0	.0	.0	.0	.0	.0
S	.0	.0	.0	.0	.0	.0	.0	.0
SSW	.0	.0	.0	.0	. 0	. 0	.0	.0
SW	.0	.0	3.0	. 0	.0	. 0	.0	3.0
WSW	.0	.0	.0	.0	.0	.0	.0	.0
W	. 0	.0	.0	.0	.0	.0	.0	.0
WNW	.0	.0	.0	.0	.0	.0	. 0	.0
NW	.0	.0	.0	. 0	. 0	.0	.0	. 0
NNW	. 0	.0	.0	.0	.0	. 0	.0	.0
TOTAL	.0	.0	3.0	.0	.0	.0	.0	3.0
	EASUREMENT H ATURE SENSOR			•		122.00 112.00		

NOTE: CALMS WERE DISTRIBUTED IN PROPORTION TO THE FREQUENCY OF WINDS IN THE LOWEST WIND SPEED GROUP WITH NON-ZERO ENTRIES IN EACH STABILITY.

MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) VALID OBSER. DURING THIS PERIOD (ALL STABILITIES)

BASIC METEOROLOGICAL OBSERVATIONS AT 122.0 (M) FOR PERIOD [Year/Month/Day/Hour] [2001/10/ 1/ 0] TO [2001/12/31/23]

PASQUILL STABILITY: ALL

	WIND SPEED	(MPH)						
WIND FROM	CALMS	3.50	3.50 - 7.50	7.50 - 12.50	12.50 - 18.50	18.50 - 24.00	24.00 -	TOTAL
N NNE NE ENE	.0	6.0 15.0 9.0 14.0	44.0 21.0 16.0	45.0 6.0 2.0	.0	1.0 .0 .0	.0	106.0 42.0 27.0 33.0
E	.0	12.0	8.0	9.0	6.0	.0	.0	35.0
ESE SE SSE		36.0	106.0	14.0 67.0 84.0	27.0	.0 7.0 5.0		243.0
S SSW SW WSW	.0 .0 .0	18.0	56.0 32.0 34.0 16.0	34.0	41.0 24.0 35.0 51.0	8.0 2.0 9.0 14.0	.0 1.0 6.0 2.0	214.0 127.0 136.0 136.0
W WNW WW NWW	.0	12.0 9.0 7.0	10.0 28.0 25.0	40.0 34.0 33.0	70.0 81.0 41.0	35.0 63.0 30.0		181.0 256.0 138.0
TOTAL	.0	299.0						
DATA MEASUREMENT HEIGHT (M ABOVE GRADE) 122.00 TEMPERATURE SENSOR SEPARATION (METERS) 112.00								
MISSING OBS. DURING THIS PERIOD (ALL STABILITIES) 4 VALID OBSER. DURING THIS PERIOD (ALL STABILITIES) 2204								

NL-02-065 May, 2002

Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

#### ANNUAL

# EFFLUENT AND WASTE DISPOSAL REPORT

F - REPORTABLE CHANGES

TO THE PROCESS CONTROL PROGRAM (PCP)

OFFSITE DOSE CALCULATION MANUAL (ODCM)

AND RADIOACTIVE WASTE SYSTEMS

#### G - REPORTABLE ITEMS

THE RADIOACTIVE LIQUID EFFLUENT MONITORING

INSTRUMENTATION

RADIOACTIVE GASEOUS EFFLUENT MONITORING

INSTRUMENTATION

H - UNPLANNED RELEASES

2001

ENTERGY NUCLEAR OPERATIONS, INC. INDIAN POINT UNIT NOS. 1 & 2 DOCKET NOS. 50-03 & 50-247 MAY, 2002

#### SECTION F

#### Reportable Changes

#### A. Process Control Program (PCP)

Section 6.14.1 of the Indian Point Unit No. 2 Technical Specifications requires that the licensee initiated changes to the PCP be reported to the Commission in the Annual Radioactive Effluent Release Report. During the 2001 reporting period there were no changes to the PCP.

#### B. Offsite Dose Calculation Manual (ODCM)

Section 6.15.2 of the Indian Point Unit No. 2 Technical Specifications requires that changes to the ODCM be reported to the Commission in the Annual Radioactive Effluent Release Report. During the 2001 reporting period there were no changes to the ODCM.

## C. Radioactive Waste Systems (RWS)

Section 6.16.1 of the Indian Point Unit No. 2 Technical Specifications requires that major changes to the RWS be reported to the Commission in the Annual Radioactive Effluent Release Report. During the 2001 reporting period there were no major changes made to the RWS.

## SECTION G

## Reportable Items

- A. Radioactive Liquid Effluent Monitoring Instrumentation

  None
- B. Radioactive Gaseous Effluent Monitoring Instrumentation

  None

NL-02-065 May, 2002

Re: Indian Point Unit Nos. 1 & 2 Docket Nos. 50-03 & 50-247

## SECTION H

## Unplanned Releases

A. Unplanned Liquid Releases

None

B. <u>Unplanned Gaseous Releases</u>

None