Effluent and Waste Disposal

Semi-Annual Report

July 1 - December 31, 1985

Facility Indian Point 3

Licensee New York Power Authority

This information is provided in accordance with the requirements of Regulatory Guide 1.21. The numbered sections of this report reference corresponding sections of the subject Regulatory Guide, pages 1.21-10 to 12.

A. Supplemental Information

1. Regulatory Limits

Indian Point 3 is presently subject to limits on radioactive waste releases that are set forth in sections 2.3.1, 2.3.2, 2.3.3, 2.4.1, 2.4.2, 2.4.3 and 2.4.4 of Appendix B to Docket #50-286 entitled "Environmental Technical Specification Requirements Part II Radiological Environmental". The percentages of the technical specification limits reported in Tables 1A and 2A are the percent of the quarterly limits specified in the ETSR. If more than one limit applies to the release the most restrictive limit is applied.

2. Maximum Permissible Concentration

a. Fission and Activation Gases

The quarterly dose resulting from release of fission and activation gases is calculated in accordance with the methodology stated in the Off Site Dose Calculation Manual (ODCM). The specific isotopes listed in Table 1C are used to determine the effective dose factors for the time period.

b&c. Iodines, Tritium and Particulates

The quarterly organ dose limit for Iodine 131, tritium and particulates with half-lives greater than eight days is calculated in accordance with the methodology stated in the ODCM.

d. Liquid Effluents

The quarterly dose limit for liquid isotopic releases is calculated in accordance with the methodology stated in the ODCM. The limit for noble gases dissolved in liquid releases is calculated based upon a maximum permissible concentration of 2.00E-4 as required by section 2.3.1.A of the ETSR.

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3. Average Energy

The average energies ($\bar{E}$) of the radionuclide mixture in releases of fission and activation gases were as follows:

3rd Quarter	$\bar{E}_\beta$=1.54E-01	MeV/dis	$\bar{E}_\gamma$=4.36E-02	MeV/dis
4th Quarter	$\bar{E}_\beta$=1.68E-01	MeV/dis	$\bar{E}_\gamma$=6.81E-02	MeV/dis

4. Measurements and Approximations of Total Radioactivity

a. Fission and Activation Gases

Analysis of effluent gases has been performed in compliance with the requirements of Table 3.4-1 of the ETSR. In the case of isolated tanks (batch release) the total activity discharged is based on an isotopic analysis of each batch with the volume of gas in the batch corrected to standard temperature and pressure.

Vapor containment purge discharges have been treated as batch releases and pressure relief discharges have been treated as continuous releases (> 500 hrs/year as defined in NUREG 0133). At least one complete isotopic concentration analysis of containment air is performed monthly. This analysis is used in conjunction with a process monitor to obtain the isotopic mixture and quantification of each pressure relief. Isotopic analyses for each vapor containment purge are taken prior to and during the purge. This information is combined with the volume of air in each discharge to calculate the quantity of activity, from these discharges.

The continuous building discharges are based on weekly samples of ventilation air for isotopic content. This information is combined with total air volume discharged and the process radiation monitor readings to determine the quantity of activity from continuous discharges.

b&c. Iodines and Particulates

Iodine-131 and particulate releases are quantified by collecting a continuous sample of ventilation air on a TEDA impregnated activated charcoal cartridge and a glass-fiber filter paper. These samples are changed weekly as required in Table 3.4-1 of the ETSR and the concentration of isotopes found by analysis of these samples is combined with the volume or air discharged during the sampling period to calculate the quantity of activity discharged.

For other iodine isotopes the concentration of each isotope is determined monthly on a 24-hour sample. The concentration of the isotopes found by analysis is combined with the volume of air discharged during the sampling period to calculate the quantity of activity discharged.

d. Liquid Effluents

A sample of each batch discharge is taken and an isotopic analysis is performed in compliance with requirements specified in Table 3.3-1 of the ETSR. This isotopic concentration data is combined with information on volume discharged to determine the amount of each isotope discharged.

Proportional composite samples of continuous discharges are taken and analyzed in compliance with Table 3.3-1 of the ETSR. This concentration data is combined with the volume discharged to calculate the total activity discharged.

5. Batch Releases

a. Liquid

	1985 3rd Quarter	1985 4th Quarter
Number of Batch Releases	40	56
Total Time Period Batch Releases (Min.)	12574	14041
Maximum " " " " " "	2134	415
Average " " " " " "	314.4	250.7
Minimum " " " " " "	51	145
Average Stream Flow (cfs)	7687	19233

b. Gaseous

Number of Batch Releases	4	2
Total Time Period Batch Release (Min.)	340	730
Maximum " " " " "	100	690
Average " " " " "	85	365
Minimum " " " " "	70	40

6. Abnormal Releases

a. Liquid
None

b. Gaseous
1. Number of releases: 1
2. Total activity releases: 1.05E+01 curies (noble gases)

7.0 Radiological Environmental Technical Specifications

The Radiological Environmental Technical Specifications require reporting of prolonged outage of effluent monitoring equipment (Sections 2.1.C and 2.2.B) and significant changes in the land use census, Radiological Environmental Monitoring Program or exceeding the total curie content limitations in outdoor tanks. (Sections 2.8.A, 2.8.B, 2.7.C and 2.3.4.B). During this reporting period several process radiation monitors were out of service greater than the thirty day time period (Section 2.2).

Environmental Release Points - (Administration Building, Controlled Area Noble Gas Monitor, R-46)	This monitor was out of service for a period of 35 days. Initially the out of service was due to the failure of the sample delivery system. Repair and return to service was inadvertently delayed when R-46 was not initially identified as a tech spec monitor. Once identified repair efforts were promptly scheduled and completed. The Authority is taking steps to ensure that all monitors covered by the new RETS receive the proper repair priority.
Waste Gas Hold Up Tank Noble - Gas Monitor, R-20	This monitor was twice out of service for periods of 33 days. Both out of services were due to collapsed detectors in the monitor caused by operator and design deficiencies. Replacement detectors were not readily available on either occasion.

Additionally during this time period environmental release point tritium samples were not collected within the prescribed time periods in Table 3.4-1. The tritium sampling frequency was exceeded in August and September of 1985 for the Radioactive Machine Shop and in August 1985 for the Administration Building controlled area ventilation. As a result of scheduling errors for these release points, these samples were not taken. This problem has been corrected. Since the buildings contain neither primary liquid systems nor liquid or gaseous waste processing systems, these omissions did not have a significant effect on tritium release assessment.

The RETS modified the content and format of the Semi-Annual Effluent Release Report (Section 5.3.3.1). A new section, Section G "Offsite Dose Calculation Manual Changes", has been included. During this reporting period there were no changes to the Process Control Program or the Offsite Dose Calculation Manual.

Indian Point 3

EFFLUENT AND WASTE DISPOSAL

SEMI-ANNUAL REPORT

B. GASEOUS EFFLUENTS
THIRD AND FOURTH

QUARTER, 1985

TABLE 1A

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1985)

GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

	UNIT 3	QUARTER 3rd	QUARTER 4th	EST. TOTAL Error %
A. Fission & Activation Gases				
1. Total release	Ci	1.96E+00	2.20E+02	2.50E+01
2. Average release rate for period	uCi/sec	2.47E-01	2.77E+01	
3. Percent of technical specification limit.	%	2.05E-02	2.53E+00	
B. Iodines				
1. Total iodine - 131	Ci	5.23E-05	7.76E-04	2.50E+01
2. Average release rate for period	uCi/sec	6.59E-06	9.76E-05	
3. Percent of technical specification limit.	%	1.47E-02	1.65E-01	
C. Particulates				
1. Particulates with half-lives >8 days	Ci	6.65E-05	5.20E-05	2.50E+01
2. Average release rate for period	uCi/sec	8.36E-06	6.54E-06	
3. Percent of technical specification limit.	%	1.47E-02	1.65E-01	
4. Gross alpha radioactivity	Ci	<3.72E-07	<3.08E-07	
D. Tritium				
1. Total release	Ci	4.01E-01	5.63E-01	2.50E+01
2. Average release rate for period	uCi/sec	5.05E-02	7.09E-02	
3. Percent of technical specification limit.	%	1.47E-02	1.65E-01	

TABLE 1C
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1985)
GASEOUS EFFLUENTS-GROUND RELEASES

Nuclides Released	Unit	CONTINUOUS MODE 3rd Quarter	CONTINUOUS MODE 4th Quarter	BATCH MODE 3rd Quarter	BATCH MODE 4th Quarter
1. Fission Gases					
Krypton (Kr) 85	Ci		8.04E-02	1.06E-01	
Krypton (Kr) 85m	Ci		1.35E+00		5.75E-02
Krypton (Kr) 87	Ci				
Krypton (Kr) 88	Ci		2.68E-03		
Xenon (Xe) 133	Ci	1.85E+00	1.83E+02	1.15E-05	6.32E+00
Xenon (Xe) 133m	Ci		1.65E+00		8.45E-01
Xenon (Xe) 135	Ci		1.97E+01		3.27E+00
Xenon (Xe) 135m	Ci		2.15E-03		3.35E-01
Xenon (Xe) 138	Ci				
Xenon (Xe) 131m	Ci		3.45E+00	8.88E-04	7.00E-03
Argon (Ar) 41	Ci		6.68E-02		
Unidentified	Ci				
TOTAL FOR PERIOD	Ci	1.85E+00	2.09E+02	1.07E-01	1.08E+01
2. Iodines					
iodine (I) 131	Ci	5.23E-05	7.76E-04		
iodine (I) 133	Ci		3.47E-04		
iodine (I) 135	Ci				
TOTAL FOR PERIOD	Ci	5.23E-05	1.12E-03		

TABLE 1C
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1985)
GASEOUS EFFLUENTS - GROUND RELEASES

Nuclides Released	Unit	CONTINUOUS MODE 3rd Quarter	CONTINUOUS MODE 4th Quarter	BATCH MODE 3rd Quarter	BATCH MODE 4th Quarter
3. Particulates					
Antimony (Sb) 125	Ci		1.13E-06		
Barium (Ba) 133	Ci	5.21E-07			
Cadmium (Cd) 109	Ci		3.32E-06		
Cerium (Ce) 139	Ci	1.79E-07	1.48E-07		
Cerium (Ce) 141	Ci	4.97E-07	2.85E-07		
Cerium (Ce) 144	Ci	2.35E-06			
Cesium (Cs) 134	Ci		2.38E-07		
Cesium (Cs) 137	Ci	2.97E-06	4.32E-06		
Cobalt (Co) 57	Ci		5.84E-08		
Cobalt (Co) 58	Ci	3.06E-05	8.31E-06		
Cobalt (Co) 60	Ci	2.57E-05	3.02E-05		
Chromium (Cr) 51	Ci		1.77E-06		
Iron (Fe) 55	Ci	3.69E-06	1.98E-06		
Niobium (Nb) 95	Ci				
Strontium (Sr) 85	Ci		1.92E-07		
Strontium (Sr) 90	Ci	5.75E-08			
Tin (Sn) 113	Ci				
TOTAL	Ci	6.65E-05	5.20E-05		

Indian Point 3

EFFLUENT AND WASTE DISPOSAL

SEMI-ANNUAL REPORT

C. LIQUID EFFLUENTS
THIRD AND FOURTH
QUARTERS, 1985

TABLE 2A

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1985)

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

	UNIT	QUARTER 3rd	QUARTER 4th	EST.TOTAL ERROR %
A. Fission and activation products				
1. Total release (not including tritium, gases, alpha)	Ci	1.32E-01	9.82E-02	2.50E+01
2. Average diluted concentration during period	uCi/ml	1.88E-09	4.54E-10	
3. Percent of applicable limit	%	1.77E+00	5.38E-01	
B. Tritium				
1. Total release	Ci	3.54E+00	1.16E+02	2.50E+01
2. Average diluted concentration during period	uCi/ml	5.04E-08	5.36E-07	
3. Percent of applicable limit	%	1.77E+00	5.38E-01	
C. Dissolved and entrained gases				
1. Total release	Ci	4.57E-04	3.41E+00	2.50E+01
2. Average diluted concentration during period	uCi/ml	6.51E-12	1.57E-08	
3. Percent of applicable limit	%	1.77E+00	5.38E-01	
D. Gross alpha radioactivity				
1. Total release	Ci	<1.12E-04	<3.11E-04	2.50E+01
E. Volume of waste release (prior to dilution)	liters	1.82E+06	4.66E+06	1.00E+01
F. Volume of dilution water used during period	liters	7.02E+10	2.17E+11	1.00E+01

TABLE 2B

LIQUID EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT

Nuclides Released	Unit	CONTINUOUS MODE 3rd Quarter	CONTINUOUS MODE 4th Quarter	BATCH MODE 3rd Quarter	BATCH MODE 4th Quarter
Antimony (Sb) 122	Ci				
Antimony (Sb) 124	Ci			1.55E-03	2.92E-05
Antimony (Sb) 125	Ci			3.25E-03	9.33E-04
Barium/Lanthanum 140	Ci				9.58E-05
Barium (Ba) 133	Ci				1.40E-05
Cadmium (Cd) 109	Ci				
Cerium (Ce) 139	Ci				4.10E-04
Cerium (Ce) 141	Ci			1.20E-04	1.65E-05
Cerium (Ce) 144	Ci				3.50E-05
Cesium (Cs) 134	Ci			4.54E-03	2.81E-04
Cesium (Cs) 138	Ci			6.08E-06	
Cesium (Cs) 137	Ci			8.68E-03	9.54E-04
Chromium (Cr) 51	Ci			1.54E-03	1.36E-03
Cobalt (Co) 57	Ci			1.03E-04	7.41E-05
Cobalt (Co) 58	Ci		6.52E-04	6.25E-02	2.95E-02
Cobalt (Co) 60	Ci		6.22E-03	1.64E-02	1.90E-02
Iodine (I) 131	Ci			2.24E-05	4.83E-03
Iodine (I) 133	Ci			4.58E-06	3.92E-04
Iodine (I) 134	Ci				1.29E-04
Iodine (I) 135	Ci				
Iron (Fe) 55	Ci			2.05E-02	2.52E-02
Iron (Fe) 59	Ci			9.12E-05	1.65E-05
Mercury (Hg) 203	Ci				

TABLE 2B

Nuclides	Unit	CONTINUOUS MODE 3rd Quarter	CONTINUOUS MODE 4th Quarter	BATCH MODE 3rd Quarter	BATCH MODE 4th Quarter
Manganese (Mn) 54	Ci			7.07E-04	1.11E-03
Manganese (Mn) 56	Ci				
Molybdenum (Mo)99	Ci				
Nickel (Ni) 63	Ci			8.73E-03	2.73E-03
Copper (Cu) 64	Ci				
Lanthanum (La) 142	Ci				
Niobium (Nb) 95	Ci			7.43E-04	6.52E-04
Yttrium (Y) 88	Ci				
Rubidium (Rb) 88	Ci				
Ruthenium (Ru) 103	Ci			7.58E-05	3.91E-06
Ruthenium (Ru) 106	Ci				7.36E-04
Silver (Ag)110m	Ci			2.64E-03	1.53E-03
Sodium (Na) 24	Ci			6.03E-06	
Strontium (Sr) 90	Ci			2.06E-06	
Technetium (Tc)99m	Ci				1.07E-05
Tin (Sn) 113	Ci			8.90E-05	1.86E-04
Yttrium (Y) 91	Ci				9.45E-04
Zinc (Zn) 65	Ci				
Zirconium (Zr) 95	Ci				1.27E-04
TOTAL FOR PERIOD		0	6.87E-03	1.32E-01	9.13E-02

TABLE 2B

Nuclides	Unit	CONTINUOUS MODE 3rd Quarter	CONTINUOUS MODE 4th Quarter	BATCH MODE 3rd Quarter	BATCH MODE 4th Quarter
Xenon (Xe) 133	Ci		5.45E-05	4.57E-04	3.30E-00
Xenon (Xe) 135	Ci				3.19E-02
Xenon (Xe) 131m	Ci				3.53E-02
Xenon (Xe) 133m	Ci				4.03E-02
Xenon (Xe) 135m	Ci				7.61E-05
Krypton (Kr) 85m	Ci				3.08E-04
Krypton (Kr) 87	Ci				3.14E-05
Argon (Ar) 41	Ci				1.80E-05
TOTAL DISSOLVED AND ENTRAINED GASES	Ci	0	5.45E-05	4.57E-04	3.41E-00

Indian Point 3

EFFLUENT AND WASTE DISPOSAL

SEMI-ANNUAL REPORT

D. SOLID WASTE
THIRD AND FOURTH
QUARTERS, 1985

TABLE 3

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
July 1 - December 1985

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not irradiated fuel)

1. Type of Waste	Unit	6 Month Period Class A	Class B	Est. Total Error, %
a. Spent Resins, filter sludges, etc.	m^3	4.10E+1	8.60E+0	5.0E+1
	Ci	1.07E+2	3.96E+2	
b. Dry Compressible, contaminated equip. etc.	m^3	1.59E+2	0	5.0E+1
	Ci	7.50E+0	0	
c. Irradiated Components	m^3	0	0	N/A
	Ci	0	0	
d. Other	m^3	0	0	N/A
	Ci	0	0	

2. Estimate of major nuclide composition (by type of waste)

	NUCLIDE	UNIT	CLASS A	CLASS B
a.	Fe-55	%	24	15
	Co-58	%	55	2
	Co-60	%	15	55
	Ni-63	%	2	18
	Cs-137	%	4	10
b.	Fe-55	%	44	N/A
	Co-58	%	14	
	Co-60	%	35	
	Ni-63	%	4	
	Cs-137	%	3	

3. Solid Waste Disposition

Number of Shipments	Mode of Transport	Destination
8	Truck	Barnwell, So. Carolina
10	Truck	Richland, Washington

4. Containers Shipped

Container	Class A Number	Class A Solid. Media	Class B Number	Class B Solid. Media
Pressure Vessel	4	none	0	N/A
High Integrity Container	3	none	2	1-cement 1-none
Steel Liner	6	4-cement 2-none	0	N/A
Crate	23	none	0	N/A
Drum	430	none	0	N/A

Indian Point 3

EFFLUENT AND WASTE DISPOSAL

SEMI-ANNUAL REPORT

E. RADIOLOGICAL IMPACT ON MAN

January - December 1985

RADIOLOGICAL IMPACT ON MAN

The radiological impact on man is determined by conservatively calculating doses to a hypothetically maximum individual offsite based on plant effluents. Calculations are divided into 3 categories:

- Noble Gases
- Particulates and Iodine
- Liquid Releases (fish and invertebrate consumption)

An annual average dispersion factor is used in the calculations, the details of which are presented in the Offsite Dose Calculation Manual.

Doses were combined to provide a conservative determination of the maximum individual offsite radiation dose from the following pathways:

- noble gas immersion and inhalation at the site boundary
- inhalation, ground deposition, and vegetation ingestion for the nearest residence likely to be occupied in the critical sector and at the 5 mile secondary receptor
- milk ingestion from a hypothetical cow located at the secondary receptor, 5 miles to the SSW.

The computer code used to perform these calculations incorporates the models and parameters presented in the Indian Point 3 ODCM which utilizes the assumptions in Regulatory Guide 1.109 and NUREG 0133.

Dose calculations from liquid pathways to individuals for the fish and invertebrate consumption pathways are computed using the methodology and parameters in the Indian Point 3 ODCM which incorporates the calculational models that are presented in Regulatory Guide 1.109 and NUREG 0133.

Indian Point 3
Radiological Impact on Man
January - December 1985
(Reference: Indian Point 3 RETS Section 5.3.3)

Maximum Individual Doses in MilliRem

	Total Body	Skin	Liver	Thyroid	Kidney	Lung	GI-LLI	Bone
A. Gaseous Pathway								
A.1 Noble Gases	1.5E-1	9.1E-1						
A.2 Radioiodines, Particulates and Tritium	7.8E-4		8.5E-4	2.9E-2	8.3E-4	7.5E-4	7.5E-4	4.9E-4
B. Liquid Pathway	3.0E-2		5.3E-2	1.0E-2	8.9E-3	1.7E-2	1.3E-1	6.6E-2
TOTALS	1.8E-1	9.1E-1	5.4E-2	3.9E-2	9.7E-3	1.8E-2	1.3E-1	6.6E-2

The individual organ doses do not include contribution from whole body exposure.

Indian Point 3

EFFLUENT AND WASTE DISPOSAL

SEMI-ANNUAL REPORT

F. METEROROLOGICAL DATA

January - December 1985

*******NRC FORMAT FOR NUREG 1.21******

IP DATA JAN-MAR 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS A

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	0.	5.	19.	1.	0.	0.	25.
NNE	0.	0.	0.	0.	0.	0.	0.
NE	0.	0.	0.	0.	0.	0.	0.
ENE	0.	0.	0.	0.	0.	0.	0.
E	0.	0.	0.	0.	0.	0.	0.
ESE	1.	0.	0.	0.	0.	0.	1.
SE	6.	2.	0.	0.	0.	0.	8.
SSE	6.	9.	0.	0.	0.	0.	15.
S	0.	16.	2.	0.	0.	0.	18.
SSW	0.	6.	5.	0.	0.	0.	11.
SW	0.	6.	0.	0.	0.	0.	6.
WSW	2.	7.	0.	0.	0.	0.	9.
W	0.	20.	3.	0.	0.	0.	23.
WNW	0.	16.	7.	1.	0.	0.	24.
NW	1.	7.	11.	2.	0.	0.	21.
NNW	0.	13.	12.	0.	0.	0.	25.
TOTAL	16.	107.	59.	4.	0.	0.	186.

CALM 0.

TOTAL HOURS IN MONTH = 2160

TOTAL DATA HOURS=TOTAL+CALM

*******NRC FORMAT FOR NUREG 1.21******

IP DATA JAN-MAR 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS B

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	2.	10.	3.	0.	0.	0.	15.
NNE	0.	0.	0.	0.	0.	0.	0.
NE	0.	0.	0.	0.	0.	0.	0.
ENE	0.	1.	0.	0.	0.	0.	1.
E	0.	1.	0.	0.	0.	0.	1.
ESE	1.	2.	0.	0.	0.	0.	3.
SE	2.	0.	0.	0.	0.	0.	2.
SSE	1.	2.	0.	0.	0.	0.	3.
S	1.	3.	1.	0.	0.	0.	5.
SSW	0.	1.	0.	0.	0.	0.	1.
SW	2.	2.	0.	0.	0.	0.	4.
WSW	2.	4.	1.	0.	0.	0.	7.
W	1.	4.	2.	0.	0.	0.	7.
WNW	1.	6.	8.	2.	0.	0.	17.
NW	0.	6.	15.	2.	0.	0.	23.
NNW	0.	4.	4.	0.	0.	0.	8.
TOTAL	13.	46.	34.	4.	0.	0.	97.

CALM 0.

TOTAL HOURS IN MONTH = 2160

TOTAL DATA HOURS=TOTAL+CALM

*******NRC FORMAT FOR NUREG 1.21******

IP DATA JAN-MAR 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS C

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	0.	10.	2.	0.	0.	0.	12.
NNE	0.	4.	0.	0.	0.	0.	4.
NE	0.	0.	0.	0.	0.	0.	0.
ENE	1.	1.	0.	0.	0.	0.	2.
E	1.	0.	0.	0.	0.	0.	1.
ESE	1.	0.	0.	0.	0.	0.	1.
SE	4.	1.	0.	0.	0.	0.	5.
SSE	3.	1.	0.	0.	0.	0.	4.
S	3.	2.	0.	0.	0.	0.	5.
SSW	0.	4.	0.	0.	0.	0.	4.
SW	3.	6.	1.	0.	0.	0.	10.
WSW	1.	4.	1.	0.	0.	0.	6.
W	1.	3.	0.	0.	0.	0.	4.
WNW	0.	9.	3.	2.	0.	0.	14.
NW	0.	7.	9.	3.	0.	0.	19.
NNW	3.	9.	7.	0.	0.	0.	19.
TOTAL	21.	61.	23.	5.	0.	0.	110.

CALM 0.

TOTAL HOURS IN MONTH = 2160

TOTAL DATA HOURS=TOTAL+CALM

*******NRC FORMAT FOR NUREG 1.21******

IP DATA JAN-MAR 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS D

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	24.	122.	60.	3.	0.	0.	209.
NNE	37.	53.	18.	0.	0.	0.	113.
NE	21.	13.	0.	0.	0.	0.	34.
ENE	14.	3.	0.	0.	0.	0.	17.
E	11.	5.	0.	0.	0.	0.	16.
ESE	9.	2.	0.	0.	0.	0.	11.
SE	19.	2.	0.	0.	0.	0.	21.
SSE	15.	12.	0.	0.	0.	0.	27.
S	14.	18.	1.	0.	0.	0.	33.
SSW	3.	16.	1.	0.	0.	0.	20.
SW	10.	13.	0.	0.	0.	0.	23.
WSW	5.	16.	3.	0.	0.	0.	24.
W	10.	33.	8.	0.	0.	0.	51.
WNW	3.	59.	18.	1.	0.	0.	81.
NW	3.	81.	105.	12.	0.	0.	201.
NNW	9.	90.	37.	5.	0.	0.	141.
TOTAL	207.	543.	251.	21.	0.	0.	1022.

CALM 0.

TOTAL HOURS IN MONTH = 2160

TOTAL DATA HOURS=TOTAL+CALM

*******NRC FORMAT FOR NUREG 1.21******

IP DATA JAN-MAR 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS E

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	20.	16.	5.	0.	0.	0.	41.
NNE	35.	16.	3.	0.	0.	0.	54.
NE	58.	8.	0.	0.	0.	0.	66.
ENE	42.	4.	4.	0.	0.	0.	50.
E	34.	0.	1.	1.	0.	0.	36.
ESE	27.	0.	0.	0.	0.	0.	27.
SE	34.	2.	0.	0.	0.	0.	36.
SSE	25.	20.	0.	0.	0.	0.	45.
S	26.	33.	1.	0.	0.	0.	60.
SSW	11.	10.	1.	0.	0.	0.	22.
SW	8.	9.	0.	0.	0.	0.	17.
WSW	7.	8.	0.	0.	0.	0.	15.
W	5.	8.	5.	0.	0.	0.	18.
WNW	6.	20.	3.	0.	0.	0.	29.
NW	3.	6.	1.	0.	0.	0.	10.
NNW	10.	7.	0.	0.	0.	0.	17.
TOTAL	351.	167.	24.	1.	0.	0.	543.

CALM 0.

TOTAL HOURS IN MONTH = 2160

TOTAL DATA HOURS=TOTAL+CALM

*******NRC FORMAT FOR NUREG 1.21******

IP DATA JAN-MAR 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS F

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	5.	2.	4.	0.	0.	0.	11.
NNE	23.	10.	0.	0.	0.	0.	33.
NE	35.	13.	0.	0.	0.	0.	48.
ENE	8.	0.	0.	0.	0.	0.	8.
E	15.	0.	0.	0.	0.	0.	15.
ESE	4.	1.	0.	0.	0.	0.	5.
SE	7.	0.	0.	0.	0.	0.	7.
SSE	7.	0.	0.	0.	0.	0.	7.
S	2.	0.	0.	0.	0.	0.	2.
SSW	0.	1.	0.	0.	0.	0.	1.
SW	0.	1.	0.	0.	0.	0.	1.
WSW	1.	2.	0.	0.	0.	0.	3.
W	0.	0.	0.	0.	0.	0.	0.
WNW	0.	0.	0.	0.	0.	0.	0.
NW	2.	1.	0.	0.	0.	0.	3.
NNW	1.	0.	0.	0.	0.	0.	1.
TOTAL	110.	31.	4.	0.	0.	0.	145.

CALM 0.

TOTAL HOURS IN MONTH = 2160

TOTAL DATA HOURS=TOTAL+CALM

*******NRC FORMAT FOR NUREG 1.21******

IP DATA JAN-MAR 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS G

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	3.	1.	4.	0.	0.	0.	8.
NNE	13.	5.	2.	0.	0.	0.	20.
NE	6.	0.	0.	0.	0.	0.	6.
ENE	5.	0.	0.	0.	0.	0.	5.
E	3.	0.	0.	0.	0.	0.	3.
ESE	2.	0.	0.	0.	0.	0.	2.
SE	2.	0.	0.	0.	0.	0.	2.
SSE	0.	0.	0.	0.	0.	0.	0.
S	0.	0.	0.	0.	0.	0.	0.
SSW	0.	0.	0.	0.	0.	0.	0.
SW	0.	0.	0.	0.	0.	0.	0.
WSW	0.	0.	0.	0.	0.	0.	0.
W	1.	0.	0.	0.	0.	0.	1.
WNW	0.	0.	0.	0.	0.	0.	0.
NW	0.	0.	0.	0.	0.	0.	0.
NNW	0.	0.	0.	0.	0.	0.	0.
TOTAL	35.	6.	6.	0.	0.	0.	47.

CALM 0.

TOTAL HOURS IN MONTH = 2160

TOTAL DATA HOURS=TOTAL+CALM

*******NRC FORMAT FOR NUREG 1.21******

IP DATA APR-JUN 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS A

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	12.	48.	21.	0.	0.	0.	81.
NNE	3.	8.	5.	0.	0.	0.	16.
NE	0.	0.	0.	0.	0.	0.	0.
ENE	1.	0.	0.	0.	0.	0.	1.
E	1.	0.	0.	0.	0.	0.	1.
ESE	2.	0.	0.	0.	0.	0.	2.
SE	9.	10.	0.	0.	0.	0.	19.
SSE	26.	46.	0.	0.	0.	0.	72.
S	26.	60.	2.	0.	0.	0.	88.
SSW	4.	23.	12.	0.	0.	0.	39.
SW	5.	9.	3.	1.	0.	0.	18.
WSW	1.	13.	1.	0.	0.	0.	15.
W	2.	40.	1.	0.	0.	0.	43.
WNW	1.	24.	9.	0.	0.	0.	34.
NW	4.	16.	12.	0.	0.	0.	32.
NNW	2.	24.	8.	0.	0.	0.	34.
TOTAL	99.	321.	74.	1.	0.	0.	495.

CALM 0.

TOTAL HOURS IN MONTH = 2184

TOTAL DATA HOURS=TOTAL+CALM

*******NRC FORMAT FOR NUREG 1.21******

IP DATA APR-JUN 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS B

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	5.	12.	2.	0.	0.	0.	19.
NNE	3.	2.	2.	0.	0.	0.	7.
NE	2.	2.	0.	0.	0.	0.	4.
ENE	0.	0.	0.	0.	0.	0.	0.
E	2.	0.	0.	0.	0.	0.	2.
ESE	0.	0.	0.	0.	0.	0.	0.
SE	7.	0.	0.	0.	0.	0.	7.
SSE	7.	4.	0.	0.	0.	0.	11.
S	8.	7.	0.	0.	0.	0.	15.
SSW	2.	1.	2.	0.	0.	0.	5.
SW	0.	0.	0.	0.	0.	0.	0.
WSW	2.	2.	0.	0.	0.	0.	4.
W	2.	7.	0.	0.	0.	0.	9.
WNW	0.	3.	2.	0.	0.	0.	5.
NW	0.	3.	1.	0.	0.	0.	4.
NNW	0.	8.	1.	0.	0.	0.	9.
TOTAL	40.	51.	10.	0.	0.	0.	101.

CALM 0.

TOTAL HOURS IN MONTH = 2184

TOTAL DATA HOURS=TOTAL+CALM

*******NRC FORMAT FOR NUREG 1.21******

IP DATA APR-JUN 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS C

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	7.	8.	8.	0.	0.	0.	23.
NNE	2.	2.	1.	0.	0.	0.	5.
NE	2.	0.	0.	0.	0.	0.	2.
ENE	1.	0.	0.	0.	0.	0.	1.
E	2.	0.	0.	0.	0.	0.	2.
ESE	2.	0.	0.	0.	0.	0.	2.
SE	5.	0.	0.	0.	0.	0.	5.
SSE	5.	3.	0.	0.	0.	0.	8.
S	6.	6.	1.	0.	0.	0.	13.
SSW	3.	3.	1.	0.	0.	0.	7.
SW	0.	1.	1.	0.	0.	0.	2.
WSW	3.	1.	0.	0.	0.	0.	4.
W	0.	6.	0.	0.	0.	0.	6.
WNW	0.	3.	0.	0.	0.	0.	3.
NW	0.	2.	3.	0.	0.	0.	5.
NNW	0.	3.	2.	0.	0.	0.	5.
TOTAL	38.	38.	17.	0.	0.	0.	93.

CALM 0.

TOTAL HOURS IN MONTH = 2184

TOTAL DATA HOURS=TOTAL+CALM

*******NRC FORMAT FOR NUREG 1.21******

IP DATA APR-JUN 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS D

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	23.	62.	16.	0.	0.	0.	101.
NNE	37.	61.	26.	0.	0.	0.	124.
NE	29.	14.	0.	0.	0.	0.	43.
ENE	33.	3.	0.	0.	0.	0.	36.
E	33.	2.	0.	0.	0.	0.	35.
ESE	17.	1.	0.	0.	0.	0.	18.
SE	32.	3.	0.	0.	0.	0.	35.
SSE	19.	16.	0.	0.	0.	0.	35.
S	15.	26.	1.	0.	0.	0.	42.
SSW	6.	15.	3.	0.	0.	0.	24.
SW	4.	2.	1.	0.	0.	0.	7.
WSW	6.	6.	2.	0.	0.	0.	14.
W	7.	25.	2.	0.	0.	0.	34.
WNW	1.	12.	1.	0.	0.	0.	14.
NW	4.	18.	10.	0.	0.	0.	32.
NNW	5.	24.	12.	0.	0.	0.	41.
TOTAL	271.	290.	74.	0.	0.	0.	635.

CALM 0.

TOTAL HOURS IN MONTH = 2184

TOTAL DATA HOURS=TOTAL+CALM

*******NRC FORMAT FOR NUREG 1.21******

IP DATA APR-JUN 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS E

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	21.	34.	2.	0.	0.	0.	57.
NNE	54.	25.	0.	0.	0.	0.	79.
NE	74.	17.	0.	0.	0.	0.	91.
ENE	60.	2.	0.	0.	0.	0.	62.
E	28.	1.	0.	0.	0.	0.	29.
ESE	13.	0.	0.	0.	0.	0.	13.
SE	26.	4.	0.	0.	0.	0.	30.
SSE	28.	8.	0.	0.	0.	0.	36.
S	39.	50.	0.	0.	0.	0.	89.
SSW	12.	18.	0.	0.	0.	0.	30.
SW	3.	5.	1.	0.	0.	0.	9.
WSW	4.	9.	2.	0.	0.	0.	15.
W	3.	23.	2.	0.	0.	0.	28.
WNW	1.	11.	1.	0.	0.	0.	13.
NW	2.	5.	2.	1.	0.	0.	10.
NNW	2.	12.	1.	2.	0.	0.	17.
TOTAL	370.	224.	11.	3.	0.	0.	608.

CALM 0.

TOTAL HOURS IN MONTH = 2184

TOTAL DATA HOURS=TOTAL+CALM

*******NRC FORMAT FOR NUREG 1.21******

IP DATA APR-JUN 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS F

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	10.	1.	0.	0.	0.	0.	11.
NNE	36.	9.	0.	0.	0.	0.	45.
NE	36.	6.	0.	0.	0.	0.	42.
ENE	23.	0.	0.	0.	0.	0.	23.
E	27.	0.	0.	0.	0.	0.	27.
ESE	15.	0.	0.	0.	0.	0.	15.
SE	10.	0.	0.	0.	0.	0.	10.
SSE	6.	1.	0.	0.	0.	0.	7.
S	8.	3.	0.	0.	0.	0.	11.
SSW	4.	1.	0.	0.	0.	0.	5.
SW	1.	0.	0.	0.	0.	0.	1.
WSW	0.	0.	0.	0.	0.	0.	0.
W	3.	2.	0.	0.	0.	0.	5.
WNW	1.	0.	0.	0.	0.	0.	1.
NW	3.	0.	0.	0.	0.	0.	3.
NNW	4.	0.	0.	0.	0.	0.	4.
TOTAL	187.	23.	0.	0.	0.	0.	210.

CALM 0.

TOTAL HOURS IN MONTH = 2184

TOTAL DATA HOURS=TOTAL+CALM

*******NRC FORMAT FOR NUREG 1.21******

IP DATA APR-JUN 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS G

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	2.	0.	0.	0.	0.	0.	2.
NNE	10.	0.	0.	0.	0.	0.	10.
NE	15.	0.	0.	0.	0.	0.	15.
ENE	7.	0.	0.	0.	0.	0.	7.
E	3.	0.	0.	0.	0.	0.	3.
ESE	1.	0.	0.	0.	0.	0.	1.
SE	1.	0.	0.	0.	0.	0.	1.
SSE	0.	0.	0.	0.	0.	0.	0.
S	0.	0.	0.	0.	0.	0.	0.
SSW	1.	0.	0.	0.	0.	0.	1.
SW	0.	0.	0.	0.	0.	0.	0.
WSW	0.	0.	0.	0.	0.	0.	0.
W	0.	0.	0.	0.	0.	0.	0.
WNW	1.	0.	0.	0.	0.	0.	1.
NW	0.	0.	0.	0.	0.	0.	0.
NNW	0.	1.	0.	0.	0.	0.	1.
TOTAL	41.	1.	0.	0.	0.	0.	42.

CALM 0.

TOTAL HOURS IN MONTH = 2184

TOTAL DATA HOURS=TOTAL+CALM

*******NRC FORMAT FOR NUREG 1.21******

INDIAN POINT JULY-SEPT 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS A

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	33.	64.	9.	0.	0.	0.	106.
NNE	12.	53.	18.	0.	0.	0.	83.
NE	12.	8.	0.	0.	0.	0.	20.
ENE	5.	1.	0.	0.	0.	0.	6.
E	8.	1.	0.	0.	0.	0.	9.
ESE	12.	0.	0.	0.	0.	0.	12.
SE	37.	1.	0.	0.	0.	0.	38.
SSE	51.	22.	0.	0.	0.	0.	73.
S	32.	30.	0.	0.	0.	0.	62.
SSW	14.	21.	3.	0.	0.	0.	38.
SW	2.	6.	0.	0.	0.	0.	8.
WSW	8.	7.	0.	0.	0.	0.	15.
W	8.	9.	0.	0.	0.	0.	17.
WNW	2.	2.	0.	1.	0.	0.	5.
NW	1.	2.	0.	0.	0.	0.	3.
NNW	4.	6.	0.	0.	0.	0.	10.
TOTAL	241.	233.	30.	1.	0.	0.	505.

CALM 0.

*******NRC FORMAT FOR NUREG 1.21******

INDIAN POINT JULY-SEPT 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS B

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	6.	7.	1.	0.	0.	0.	14.
NNE	9.	14.	5.	1.	0.	0.	29.
NE	3.	7.	0.	0.	0.	0.	10.
ENE	6.	2.	0.	0.	0.	0.	8.
E	4.	0.	0.	0.	0.	0.	4.
ESE	0.	0.	0.	0.	0.	0.	0.
SE	4.	0.	0.	0.	0.	0.	4.
SSE	3.	0.	0.	0.	0.	0.	3.
S	3.	2.	0.	0.	0.	0.	5.
SSW	1.	3.	0.	0.	0.	0.	4.
SW	0.	1.	0.	0.	0.	0.	1.
WSW	1.	0.	0.	0.	0.	0.	1.
W	0.	1.	0.	0.	0.	0.	1.
WNW	0.	0.	0.	0.	0.	0.	0.
NW	1.	0.	0.	0.	0.	0.	1.
NNW	1.	0.	0.	0.	0.	0.	1.
TOTAL	42.	37.	6.	1.	0.	0.	86.

CALM 0.

*******NRC FORMAT FOR NUREG 1.21******

INDIAN POINT JULY-SEPT 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS C

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	4.	3.	0.	0.	0.	0.	7.
NNE	11.	10.	3.	1.	0.	0.	25.
NE	17.	3.	1.	0.	0.	0.	21.
ENE	9.	3.	0.	0.	0.	0.	12.
E	8.	1.	0.	0.	0.	0.	9.
ESE	3.	0.	0.	0.	0.	0.	3.
SE	4.	0.	0.	0.	0.	0.	4.
SSE	7.	1.	0.	0.	0.	0.	8.
S	6.	4.	0.	0.	0.	0.	10.
SSW	0.	2.	1.	0.	0.	0.	3.
SW	0.	0.	0.	0.	0.	0.	0.
WSW	1.	2.	0.	0.	0.	0.	3.
W	2.	1.	0.	0.	0.	0.	3.
WNW	0.	0.	0.	0.	0.	0.	0.
NW	0.	0.	0.	0.	0.	0.	0.
NNW	1.	0.	0.	0.	0.	0.	1.
TOTAL	73.	30.	5.	1.	0.	0.	109.

CALM 0.

*****NRC FORMAT FOR NUREG 1.21******

INDIAN POINT JULY-SEPT 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS D

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	6.	22.	4.	2.	0.	0.	34.
NNE	35.	74.	31.	0.	0.	0.	140.
NE	64.	29.	0.	0.	0.	0.	93.
ENE	57.	5.	1.	0.	0.	0.	63.
E	39.	2.	1.	0.	0.	0.	42.
ESE	9.	2.	0.	0.	0.	0.	11.
SE	9.	0.	0.	0.	0.	0.	9.
SSE	13.	6.	0.	0.	0.	0.	19.
S	13.	24.	0.	0.	0.	0.	37.
SSW	4.	24.	3.	0.	0.	0.	31.
SW	1.	2.	0.	0.	0.	0.	3.
WSW	4.	5.	2.	0.	0.	0.	11.
W	7.	8.	0.	0.	0.	0.	15.
WNW	0.	1.	0.	0.	0.	0.	1.
NW	2.	2.	0.	0.	0.	0.	4.
NNW	0.	0.	1.	0.	0.	0.	1.
TOTAL	263.	206.	43.	2.	0.	0.	514.

CALM 1.

*******NRC FORMAT FOR NUREG 1.21******

INDIAN POINT JULY-SEPT 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS E

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	9.	10.	1.	0.	0.	0.	20.
NNE	39.	44.	0.	0.	0.	0.	83.
NE	134.	63.	0.	0.	0.	0.	197.
ENE	94.	2.	0.	0.	0.	0.	96.
E	62.	0.	0.	0.	0.	0.	62.
ESE	18.	0.	0.	0.	0.	0.	18.
SE	40.	1.	0.	0.	0.	0.	41.
SSE	23.	2.	0.	0.	0.	0.	25.
S	29.	26.	1.	0.	0.	0.	56.
SSW	4.	25.	4.	0.	0.	0.	33.
SW	0.	1.	0.	0.	0.	0.	1.
WSW	1.	4.	0.	0.	0.	0.	5.
W	6.	4.	0.	0.	0.	0.	10.
WNW	3.	3.	0.	0.	0.	0.	6.
NW	1.	1.	0.	0.	0.	0.	2.
NNW	1.	1.	0.	1.	0.	0.	3.
TOTAL	464.	187.	6.	1.	0.	0.	658.

CALM 2.

*******NRC FORMAT FOR NUREG 1.21******

INDIAN POINT JULY-SEPT 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS F

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	3.	0.	0.	0.	0.	0.	3.
NNE	32.	10.	0.	0.	0.	0.	42.
NE	116.	53.	1.	0.	0.	0.	175.
ENE	31.	2.	0.	0.	0.	0.	33.
E	22.	1.	0.	0.	0.	0.	23.
ESE	8.	0.	0.	0.	0.	0.	8.
SE	14.	1.	0.	0.	0.	0.	15.
SSE	1.	1.	0.	0.	0.	0.	2.
S	2.	1.	0.	0.	0.	0.	3.
SSW	3.	0.	0.	0.	0.	0.	3.
SW	1.	0.	0.	0.	0.	0.	1.
WSW	1.	0.	0.	0.	0.	0.	1.
W	5.	2.	0.	0.	0.	0.	7.
WNW	1.	0.	0.	0.	0.	0.	1.
NW	0.	0.	0.	0.	0.	0.	0.
NNW	2.	0.	0.	0.	0.	0.	2.
TOTAL	242.	76.	1.	0.	0.	0.	319.

CALM 0.

*******NRC FORMAT FOR NUREG 1.21******

INDIAN POINT JULY-SEPT 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS G

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	0.	0.	0.	0.	0.	0.	0.
NNE	2.	0.	0.	0.	0.	0.	2.
NE	5.	6.	0.	0.	0.	0.	11.
ENE	0.	0.	0.	0.	0.	0.	0.
E	1.	0.	0.	0.	0.	0.	1.
ESE	0.	0.	0.	0.	0.	0.	0.
SE	0.	0.	0.	0.	0.	0.	0.
SSE	0.	0.	0.	0.	0.	0.	0.
S	0.	0.	0.	0.	0.	0.	0.
SSW	0.	0.	0.	0.	0.	0.	0.
SW	0.	0.	0.	0.	0.	0.	0.
WSW	0.	0.	0.	0.	0.	0.	0.
W	0.	0.	0.	0.	0.	0.	0.
WNW	0.	0.	0.	0.	0.	0.	0.
NW	0.	0.	0.	0.	0.	0.	0.
NNW	0.	0.	0.	0.	0.	0.	0.
TOTAL	8.	6.	0.	0.	0.	0.	14.

CALM 0.

*******NRC FORMAT FOR NUREG 1.21******

INDIAN POINT OCT-DEC 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS A

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	7.	43.	5.	0.	0.	0.	55.
NNE	5.	41.	3.	0.	0.	0.	49.
NE	2.	9.	0.	0.	0.	0.	11.
ENE	2.	2.	0.	0.	0.	0.	4.
E	0.	3.	0.	0.	0.	0.	3.
ESE	2.	2.	0.	0.	0.	0.	4.
SE	4.	3.	0.	0.	0.	0.	7.
SSE	3.	18.	0.	0.	0.	0.	21.
S	2.	34.	11.	0.	0.	0.	47.
SSW	2.	15.	1.	0.	0.	0.	18.
SW	1.	3.	1.	0.	0.	0.	5.
WSW	3.	8.	0.	0.	0.	0.	11.
W	4.	15.	6.	0.	0.	0.	25.
WNW	3.	21.	5.	0.	0.	0.	29.
NW	2.	21.	18.	1.	0.	0.	42.
NNW	2.	13.	5.	0.	0.	0.	20.
TOTAL	44.	251.	55.	1.	0.	0.	351.

CALM 0.

*******NRC FORMAT FOR NUREG 1.21******

INDIAN POINT OCT-DEC 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS B

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	3.	27.	5.	0.	0.	0.	35.
NNE	6.	20.	3.	0.	0.	0.	29.
NE	2.	2.	0.	0.	0.	0.	4.
ENE	2.	0.	0.	0.	0.	0.	2.
E	2.	0.	0.	0.	0.	0.	2.
ESE	1.	0.	0.	0.	0.	0.	1.
SE	1.	0.	0.	0.	0.	0.	1.
SSE	2.	1.	0.	0.	0.	0.	3.
S	1.	6.	1.	0.	0.	0.	8.
SSW	0.	4.	0.	0.	0.	0.	4.
SW	2.	1.	0.	0.	0.	0.	3.
WSW	1.	3.	1.	0.	0.	0.	5.
W	1.	5.	0.	0.	0.	0.	6.
WNW	2.	6.	1.	0.	0.	0.	9.
NW	0.	6.	8.	1.	0.	0.	15.
NNW	2.	7.	4.	0.	0.	0.	13.
TOTAL	28.	88.	23.	1.	0.	0.	140.

CALM 0.

*******NRC FORMAT FOR NUREG 1.21******

INDIAN POINT OCT-DEC 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS C

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	4.	11.	7.	0.	0.	0.	22.
NNE	4.	19.	2.	0.	0.	0.	25.
NE	4.	3.	0.	0.	0.	0.	7.
ENE	3.	3.	0.	0.	0.	0.	6.
E	1.	1.	0.	0.	0.	0.	2.
ESE	4.	0.	0.	0.	0.	0.	4.
SE	4.	0.	0.	0.	0.	0.	4.
SSE	1.	0.	0.	0.	0.	0.	1.
S	1.	3.	0.	0.	0.	0.	4.
SSW	2.	3.	0.	0.	0.	0.	5.
SW	1.	3.	1.	0.	0.	0.	5.
WSW	1.	0.	0.	0.	0.	0.	1.
W	1.	2.	0.	0.	0.	0.	3.
WNW	0.	2.	2.	0.	0.	0.	4.
NW	1.	6.	4.	0.	0.	0.	11.
NNW	2.	6.	1.	0.	0.	0.	9.
TOTAL	34.	62.	17.	0.	0.	0.	113.

CALM 0.

*******NRC FORMAT FOR NUREG 1.21******

INDIAN POINT OCT-DEC 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS D

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	22.	86.	12.	0.	0.	0.	120.
NNE	57.	106.	21.	1.	0.	0.	185.
NE	59.	59.	11.	0.	0.	0.	129.
ENE	49.	38.	4.	0.	0.	0.	91.
E	12.	5.	0.	0.	0.	0.	17.
ESE	15.	1.	0.	0.	0.	0.	16.
SE	11.	0.	0.	0.	0.	0.	11.
SSE	17.	11.	0.	0.	0.	0.	28.
S	14.	58.	3.	0.	0.	0.	75.
SSW	4.	21.	0.	0.	0.	0.	25.
SW	2.	5.	1.	0.	0.	0.	8.
WSW	4.	6.	1.	0.	0.	0.	11.
W	6.	17.	0.	0.	0.	0.	23.
WNW	12.	36.	2.	0.	0.	0.	50.
NW	7.	33.	12.	0.	0.	0.	52.
NNW	7.	38.	12.	0.	0.	0.	57.
TOTAL	298.	520.	79.	1.	0.	0.	898.

CALM 0.

*******NRC FORMAT FOR NUREG 1.21******

INDIAN POINT OCT-DEC 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS E

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	14.	9.	0.	0.	0.	0.	23.
NNE	39.	7.	0.	0.	0.	0.	46.
NE	72.	50.	0.	0.	0.	0.	122.
ENE	73.	5.	0.	0.	0.	0.	78.
E	24.	2.	0.	0.	0.	0.	26.
ESE	9.	0.	0.	0.	0.	0.	9.
SE	23.	1.	0.	0.	0.	0.	24.
SSE	11.	6.	0.	0.	0.	0.	17.
S	14.	47.	5.	0.	0.	0.	66.
SSW	8.	14.	3.	0.	0.	0.	25.
SW	2.	2.	0.	0.	0.	0.	4.
WSW	5.	0.	0.	0.	0.	0.	5.
W	9.	1.	0.	0.	0.	0.	10.
WNW	7.	7.	1.	0.	0.	0.	15.
NW	4.	4.	0.	0.	0.	0.	8.
NNW	9.	13.	0.	0.	0.	0.	22.
TOTAL	323.	168.	9.	0.	0.	0.	500.

CALM 3.

*******NRC FORMAT FOR NUREG 1.21******

INDIAN POINT OCT-DEC 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS F

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	6.	0.	0.	0.	0.	0.	6.
NNE	18.	0.	0.	0.	0.	0.	18.
NE	63.	19.	0.	0.	0.	0.	82.
ENE	25.	6.	0.	0.	0.	0.	31.
E	13.	0.	0.	0.	0.	0.	13.
ESE	7.	0.	0.	0.	0.	0.	7.
SE	7.	0.	0.	0.	0.	0.	7.
SSE	3.	0.	0.	0.	0.	0.	3.
S	1.	1.	0.	0.	0.	0.	2.
SSW	2.	0.	0.	0.	0.	0.	2.
SW	0.	0.	0.	0.	0.	0.	0.
WSW	0.	0.	0.	0.	0.	0.	0.
W	1.	0.	0.	0.	0.	0.	1.
WNW	0.	0.	0.	0.	0.	0.	0.
NW	0.	0.	0.	0.	0.	0.	0.
NNW	0.	0.	0.	0.	0.	0.	0.
TOTAL	146.	26.	0.	0.	0.	0.	172.

CALM 0.

*******NRC FORMAT FOR NUREG 1.21******

INDIAN POINT OCT-DEC 1985
10 METER WIND SPEED & DIR. WITH 61-10 METER DELTA T
PASQUILL CLASS G

WIND DIRECTION	WIND SPEED (MPH) 01-03	04-07	08-12	13-18	19-24	>24	TOTAL
N	0.	0.	0.	0.	0.	0.	0.
NNE	4.	0.	0.	0.	0.	0.	4.
NE	4.	18.	0.	0.	0.	0.	22.
ENE	1.	4.	0.	0.	0.	0.	5.
E	0.	0.	0.	0.	0.	0.	0.
ESE	0.	0.	0.	0.	0.	0.	0.
SE	0.	0.	0.	0.	0.	0.	0.
SSE	0.	0.	0.	0.	0.	0.	0.
S	0.	0.	0.	0.	0.	0.	0.
SSW	0.	0.	0.	0.	0.	0.	0.
SW	0.	0.	0.	0.	0.	0.	0.
WSW	0.	0.	0.	0.	0.	0.	0.
W	0.	0.	0.	0.	0.	0.	0.
WNW	0.	0.	0.	0.	0.	0.	0.
NW	0.	0.	0.	0.	0.	0.	0.
NNW	0.	0.	0.	0.	0.	0.	0.
TOTAL	9.	22.	0.	0.	0.	0.	31.

CALM 0.

Indian Point 3

EFFLUENT AND WASTE DISPOSAL

SEMI-ANNUAL REPORT

G. OFFSITE DOSE CALCULATION MANUAL CHANGES
THIRD AND FOURTH
QUARTERS, 1985

(No changes to the ODCM during this reporting period)

Indian Point 3
Nuclear Power Plant
P.O. Box 215
Buchanan, New York 10511
914 739.8200

New York Power Authority

February 28, 1986
IP3-WAJ-015Z
IP3-MK-004N

Docket No. 50-286
License No. DPR-64

Dr. Thomas E. Murley
Regional Administrator
Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Dear Dr. Murley:

Enclosed is the Semi-Annual Report of Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents for Indian Point 3 as required by Section 5.3.3.1 of the Environmental Technical Specifications. The enclosed report covers the period July 1 through December 31, 1985, for Indian Point 3 and includes those releases from Indian Point 2 which resulted from processing liquid waste from Indian Point 3. This report includes the Meteorology Data and the Radiological Impact on Man evaluation for the period of January 1 to December 31, 1985.

Sincerely,

William A. Josiger
Resident Manager

WAJ:MK:jmd

Enclosure

cc: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Indian Point 3 Resident Inspectors' Office

IE:25