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USNRC

EP-C-315
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Robert A. Karbus 3/20/84
D. H. [unclear] 3/27/84

Philadelphia Electric Company
Emergency Plan Implementation Procedure

EP-C-315 Recovery of Emergency Radiological Environmental
Monitoring Samples from Peach Bottom Units 2 and 3
and Limerick Units 1 and 2

Purpose

This procedure provides for implementation of the emergency environmental sampling program.

References

1. Peach Bottom Emergency Plan
2. Limerick Emergency Plan
3. EP-C-201 Emergency Support Officer
4. EP-C-202 Site Emergency Coordinator
5. EP-209 Telephone List for Emergency Use

U. S. NUCLEAR REGULATORY COMMISSION
 EXHIBIT No. 36
 Applicant Staff Intervenor
 Identified Received Rejected
 Date: 4-23-84
 Reporter: [Signature]

Note:

This procedure is implemented by the Engineering and Research Department upon notification from any of the following:

1. Peach Bottom shift supervision (Interim Emergency Director)

2. Limerick shift supervision (Interim Emergency Director)
3. Emergency Director or his alternate
4. Site Emergency Coordinator or his alternate
5. Health Physics and Chemistry Coordinator.

Responsibility for implementation of this procedure rests within the Engineering and Research Department. The Environmental Branch, Mechanical Engineering Division, shall provide overall coordination of sample collection, sample transport, sample analysis, and data compilation.

Note:

This procedure is divided into Section I and Section II which encompasses the emergency sampling programs for Peach Bottom Units 2 and 3 and Limerick Units 1 and 2, respectively.

SECTION I - EMERGENCY ENVIRONMENTAL SAMPLING PROGRAM FOR PEACH
BOTTOM UNITS 2 AND 3

Procedure

1. Upon notification per EP-C-201 or EP-C-202, the Environmental Sampling Coordinator (refer to Appendix I-A in this procedure) shall be provided with the following information:
 - a. Classification of Accident - _____
 - b. Release point(s) - Main Stack _____
Main Stack _____
Roof Vent Unit 2 _____
Unit 3 _____
Other _____
 - c. Prevailing wind direction - Main Stack _____
(Direction from which wind Roof Vents _____
is blowing as indicated
by meteorological
instrumentation)
 - d. Estimated plume area radiation conditions - _____ uCi/cc
airborne

_____ dose rate
R/hr W. B.

_____ dose rate
Ram/hr Thyroid
 - e. Determination of whether protective clothing is recommended for recovery of samples.

Note

In lieu of receiving radiation conditions, a judgment by the Emergency Director or Site Emergency Coordinator that the plume zone hazards would not preclude recovery of samples shall be accepted. However, the Environmental Sampling Coordinator may request that a qualified H.P. representative be provided to accompany the sample collector for the purpose of measuring radiation levels during the collection process.

2. The Environmental Sampling Coordinator shall:

- e. instruct the RMC Emergency Coordinator (refer to Appendix I-A of this procedure to:
 - a.1 direct the radiological laboratory to prepare a complete batch of TLD's with controls and to prepare for immediate analysis of samples per Appendix I-B of this procedure.
 - a.2 provide transportation of the batch of TLDs to Conowingo Hydroelectric Station and provide transportation of collected environmental samples to the radiological laboratory.
 - a.3 provide backup sample collectors for collection of water samples.
- b. notify the Sample Collector (refer to Appendix I-A of this procedure) to prepare for recovery of samples and direct the sample collectors' recovery of samples.
- c. direct Research and Testing Division personnel (refer to Appendix I-A of this procedure) to tabulate data from weather station radiation instruments.
- d. maintain contact with the Health Physics and Chemistry Coordinator as appropriate, to monitor status of emergency.
- e. supervise preparation of reports by the Environmental Branch - Mechanical Engineering Division personnel.
- f. submit reports on environmental data to the Health Physics and Chemistry Coordinator periodically or on request.

Note

All samples shall be retained until further directions are given by the Recovery Manager.

3. The Sample Collector shall:

- a. report to the Emergency Operation Facility (Peach Bottom Unit 1) to obtain a two way radio from the Field Survey Team or Health Physics and Chemistry Coordinator.

- b. report to Conowingo Hydroelectric Station to obtain supplies and keys.

Note

Sample collection equipment and supplies necessary for the collection of post emergency environmental samples will be stored at the Conowingo Hydroelectric Station.

- c. contact the Environmental Sampling Coordinator to determine planned action.
- d. maintain contact via two-way radio with the Field Survey Team to be informed of changes in emergency status.
- e. proceed as directed to exchange or collect the following from the sampling locations located in the prevailing downwind direction relative to each release point plus the two contiguous sectors:
 - e.1 Emergency TLD packet
 - e.2 Air particulate filter
 - e.3 Air iodine cartridge
 - e.4 Pasture grass and broadleaf vegetation

Note

If there are no sample locations in the contiguous sectors, the nearest neighboring sectors with samples shall be used (refer to Appendices I-C and I-D of this procedure for sample locations).

The Environmental Sampling Coordinator shall designate other areas as appropriate.

The post emergency environmental sample collection procedures are found in Appendix I-E.

- f. collect grab water samples at or near the Peach Bottom discharge canal, Conowingo Hydroelectric Station and Chester Water Company intakes.
- g. collect raw milk samples at all environmental stations 24 hours following the initiation of the emergency.
- h. deliver all samples to the Conowingo Hydroelectric Station for pickup by the RMC Courier for delivery to the radiological laboratory.

4. The Research and Testing Division personnel shall:
 - a. tabulate hourly readings (beginning one hour prior to the release) from all weather station radiation instruments.
 - b. transmit these data every four hours to the Environmental Sampling Coordinator.

5. The Environmental Branch - Mechanical Engineering Division personnel shall:
 - a. compile and analyze data from environmental samples.
 - b. prepare reports summarizing environmental data and submit reports to the Environmental Sampling Coordinator.

SECTION II - EMERGENCY ENVIRONMENTAL SAMPLING PROGRAM FOR
LIMERICK UNIT 1 AND 2

Procedure

1. Upon notification per EP-C-201 or EP-C-202, the Environmental Sampling Coordinator (refer to Appendix II-A in this procedure) shall be provided with the following information:
 - a. Classification of Accident - _____
 - b. Release point(s)

North Vent	_____
South Vent	_____
Other	_____
 - c. Prevailing wind direction - Roof Vents _____
(Direction from which wind is blowing as indicated by meteorological instrumentation)
 - d. Estimated plume area radiation conditions - _____

_____ uCi/cc
airborne
_____ dose rate
R/hr W. B.
_____ dose rate
Rem/hr Thyroid
 - e. Determination of whether protective clothing is recommended for recovery of samples.

Note

In lieu of receiving radiation conditions, a judgment by the Emergency Director or Site Emergency Coordinator that the plume zone hazards would not preclude recovery of samples shall be accepted. However, the Environmental Sampling Coordinator may request that a qualified H.P. representative be provided to accompany the sample collector for the purpose of measuring radiation levels during the collection process.

2. The Environmental Sampling Coordinator shall:
 - a. instruct the RMC Emergency Coordinator (refer to Appendix II-A of this procedure to:

- a.1 direct the radiological laboratory to prepare a complete batch of TLD's with controls and to prepare for immediate analysis of samples per Appendix II-B of this procedure.
- a.2 direct RMC sample collectors to prepare for recovery of samples and direct the sample collectors' recovery of samples.
- a.3 provide transportation of the batch of TLDs to the Pottstown Limerick Airport and provide transportation of collected environmental samples to the radiological laboratory.
- b. maintain contact with the Health Physics and Chemistry Coordinator as appropriate, to monitor status of emergency.
- c. supervise preparation of reports by the Environmental Branch - Mechanical Engineering Division personnel.
- d. submit reports on environmental data to the Health Physics and Chemistry Coordinator periodically or on request.

Note

All samples shall be retained until further directions are given by the Recovery Manager.

- 3. The RMC Emergency Coordinator/sample collector shall
 - a. obtain a two way radio from the LGS
 - b. assemble sampling team(s) at the Pottstown Limerick Airport.
 - c. contact the Environmental Sampling Coordinator to determine planned action.
 - d. maintain contact via two-way radio with the Field Survey Team to be informed of changes in emergency status.
 - e. instruct the RMC sampling team(s) to proceed to exchange or collect the following from the sampling locations located in the prevailing downwind direction relative to each release point plus the two contiguous sectors:
 - e.1 Emergency TLD packet

- e.2 Air particulate filter
- e.3 Air iodine cartridge
- e.4 Pasture grass and broadleaf vegetation

Note

If there are no sample locations in the contiguous sectors, the nearest neighboring sectors with samples shall be used (refer to Appendices II-C and II-D of this procedure for sample locations).

The Environmental Sampling Coordinator shall designate other areas as appropriate.

- f. instruct the RMC sampling team(s) to collect grab and/or composite water samples at locations as designated by the Environmental Sampling Coordinator.
 - g. instruct the RMC sampling team(s) to collect raw milk samples at all environmental stations 24 hours following the initiation of the emergency.
 - h. instruct the RMC sampling team(s) to deliver all samples to the Pottstown Limerick Airport for pickup by the RMC Courier for delivery to the radiological laboratory.
4. The Environmental Branch - Mechanical Engineering Division personnel shall:
- a. compile and analyze data from environmental samples.
 - b. prepare reports summarizing environmental data and submit reports to the Environmental Sampling Coordinator.

APPENDIX I-APBAPS
TELEPHONE LIST OF PERSONNEL TO BE CONTACTED
BY THIS PROCEDUREI. Environmental Sampling Coordinator

Primary - George Daubeler (215) 841-4516 (Office)
(215) 696-1428 (Home)

Alternate - Alan Marie (215) 841-6378 (Office)
(609) 627-3744 (Home)

II. Sample CollectorsA. Recovery of Air Filters

Primary - Charles Reid (717) 382-4466 (Home)
(717) 382-4871 (School)

Alternate - John Smerke (215) 841-4903 (Office)
(215) 855-1783 (Home)

- Joseph Reifenrath (215) 841-4904 (Office)
(609) 931-0376 (Home)

B. Recovery of Milk, Vegetation, Surface Water, TLD's

Primary - Charles Reid (717) 382-4466 (Home)
(717) 382-4871 (School)

Alternates - John Ballantine (215) 841-6379 (Office)
(609) 586-9538 (Home)

- James Elser (215) 841-4561 (Office)
(215) 358-2683 (Home)

APPENDIX I-A

III. RMC Emergency Coordinator and Radiological Laboratory

Primary - Paul Harmon (215) 326-9662 (office)
(215) 385-3833 (home)
(215) 894-7772 (radio pager)

Alternate - Doug Wahl (215) 243-2950 (office)
(215) 664-4274 (home)

Alternate (215) 243-2990*

*Note: Ask for Emergency Coordinator. If no one is at RMC, the PECo load dispatcher's office at 215-387-5013 will automatically be called. Caller should ask L.D. to contact RMC and have them contact him at his number.

A. Analysis of Samples - Consultant Laboratories

Teledyne Isotopes (201) 664-7070

Alternate 1 - David Martin (201) 391-1676 (Home)

Alternate 2 - Hewitt Jetor (201) 767-3359 (Home)

IV. Research and Testing Division

A. Tabulation of Gamma Chart Readings

Primary - Lane Corbett 70-4211 (Office)
(717) 927-6383 (Home)

Alternate - Charles Andersen 70-4309 (Office)
(717) 244-6647 (Home)

V. Health Physics and Chemistry Coordinator

Primary - Walter Knapp 70-4646
(717) 456-7014

Alternate - Jim Fongheiser 70-4646
(717) 456-7014

VI. Radiation Protection Team Leader

Primary - Norb Gazda

70-4644
(717) 456-7014

Alternate - Stuart Nelson

70-4644
(717) 456-7014

APPENDIX I-B

LABORATORY ANALYSIS OF POST EMERGENCY ENVIRONMENTAL SAMPLES

The following analyses will be performed by Teledyne Isotopes on the post-emergency environmental samples collected:

1. Air Particulates (each filter)
 - a) Gamma Spec
 - b) Gross beta (wait at least 24 hours following sample collection)
2. Air Iodine
 - a) Gamma Spec
3. Surface Water
 - a) Gamma Spec (unprepared sample)
4. Pasture Grass and Broad Leaf Vegetation
 - a) Gamma Spec (unprepared sample)
5. Milk
 - a) Gamma Spec (unprepared sample)
6. TLD - read in accordance with normal procedures

APPENDIX I-C
EMERGENCY ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM STATIONS

MEDIA	STATION GROUP	STATION NUMBER	FROM OFFGAS STACK		FROM BUILDING VENTS			
			DIRECTION	DISTANCE(ft)	DIRECTION	DISTANCE(ft)		
Air Particulate and Air Iodine	Site	*1A, 1Z	ENE	0.38	SE	0.27		
		1B	NW	0.49	NW	0.49		
	2	SE	0.92	SE	0.89			
	Intermediate Distance	3A	SW	3.4	SW	3.6		
		4A, *4B	SE	8.6	SE	8.6		
		5	E	4.8	E	4.6		
		6B	NW	5.8	NW	5.8		
		7A	E	2.1	E	1.9		
		15	N	3.7	N	3.6		
		17	ESE	4.2	ESE	4.0		
		31	SE	4.9	SE	4.9		
		32	ENE	2.9	ENE	2.7		
		33A	ENE	1.9	ENE	1.7		
		38	E	3.1	E	3.0		
		Philadelphia	*12A	ENE	63	ENE	63	
			12D	ENE	62	ENE	62	
		TLD (Ablent: Gamma)	Site	1A	ESE	0.38	SE	0.27
				1B	NW	0.49	NW	0.49
1C			SSE	0.85	SSE	0.90		
1D	SE		0.71	SE	0.70			
1E	N		0.64	NW	0.58			
1F	SSW		0.39	SSW	0.55			
1G	NW		0.56	NW	0.66			
1H	N		0.45	N	0.58			
1I	SSE		0.85	SSE	0.57			
1J	S		0.63	S	0.74			
1L	ENE		0.39	ENE	0.23			
1M	SE		1.1	SE	1.0			
1K	WSW		0.33	WSW	0.52			
40	SW		1.0	SW	1.2			
2	SE		0.92	SE	0.89			

* Indicates station with air particulate only

APPENDIX I-C
EMERGENCY ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM STATIONS

MEDIA	STATION GROUP	STATION NUMBER	FROM OFFGAS STACK DIRECTION	DISTANCE(mi)	FROM BUILDING VENTS DIRECTION	DISTANCE(mi)		
TLD (Ambient Gamma)	Intermediate Distance	3A	SW	3.0	SW	3.6		
		4K	SE	0.6	SE	0.6		
		5	E	0.8	E	0.6		
		6B	NW	5.8	NW	5.8		
		16	E	2.1	E	1.9		
		15	N	3.7	N	3.6		
		17	ESE	0.2	ESE	0.0		
		22	WNE	2.5	WNE	2.0		
		23	SSE	1.0	SSE	1.0		
		26	W	0.2	W	0.2		
		27	S	2.5	S	2.6		
		31	SE	0.9	SE	0.9		
		32	ENE	2.9	ENE	2.7		
		33A	ENE	1.9	ENE	1.7		
		38	E	3.1	E	3.0		
		42	WNE	0.2	WNE	0.2		
		43	WNE	5.1	WNE	5.0		
		44	NE	5.2	NE	5.1		
		45	ENE	3.5	ENE	3.3		
		46	SSE	0.3	SSE	0.5		
		47	S	0.2	S	0.3		
		48	SSW	0.9	SSW	5.0		
		49	WSW	3.9	WSW	4.1		
		50	W	0.8	W	0.9		
		51	WNW	3.9	WNW	4.0		
		Distant		12B	ENE	62	ENE	62
				16	E	13	E	13
18	W			10	W	10		
19	WNW			21	WNW	21		
20	SSW			15	SSW	15		
21B	W			19	W	19		
24	ESE	11	ESE	11				

EMERGENCY ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM STATIONS

<u>MEDIA</u>	<u>STATION GROUP</u>	<u>STATION NUMBER</u>	<u>FROM OFFGAS STACK DIRECTION</u>	<u>FROM BUILDING VENTS DIRECTION</u>
Milk	Near	G	S, SSW	SSW
		J	W	W
		O	SW	SW
	Intermediate Distance	D	NE	NE
		L	NE	NE
		N	ENE	ENE
		H	ESE	ESE
	Distance	A	WSW	WSW
		B	S	S
		C	NW	NW
		E	N	N

LOCATION DESCRIPTION

Surface Water	1M	Discharge Canal Exit
	13A	Chester Water Intake - Conowingo Pond
	ap	Conowingo Dam - El 33' HSL
	6A	Holtwood - Hydroelectric Station forebay (Control)

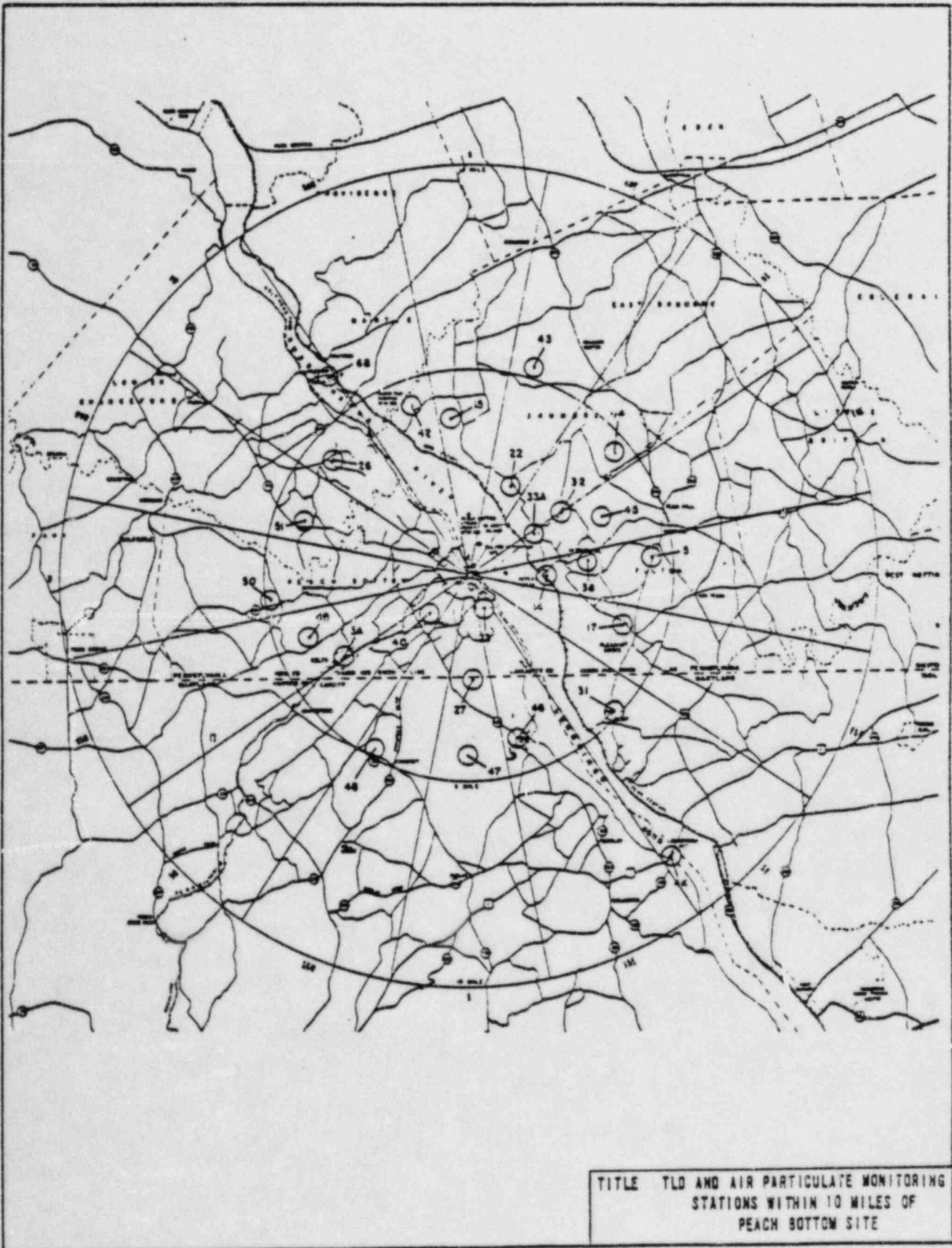
APPENDIX I-C

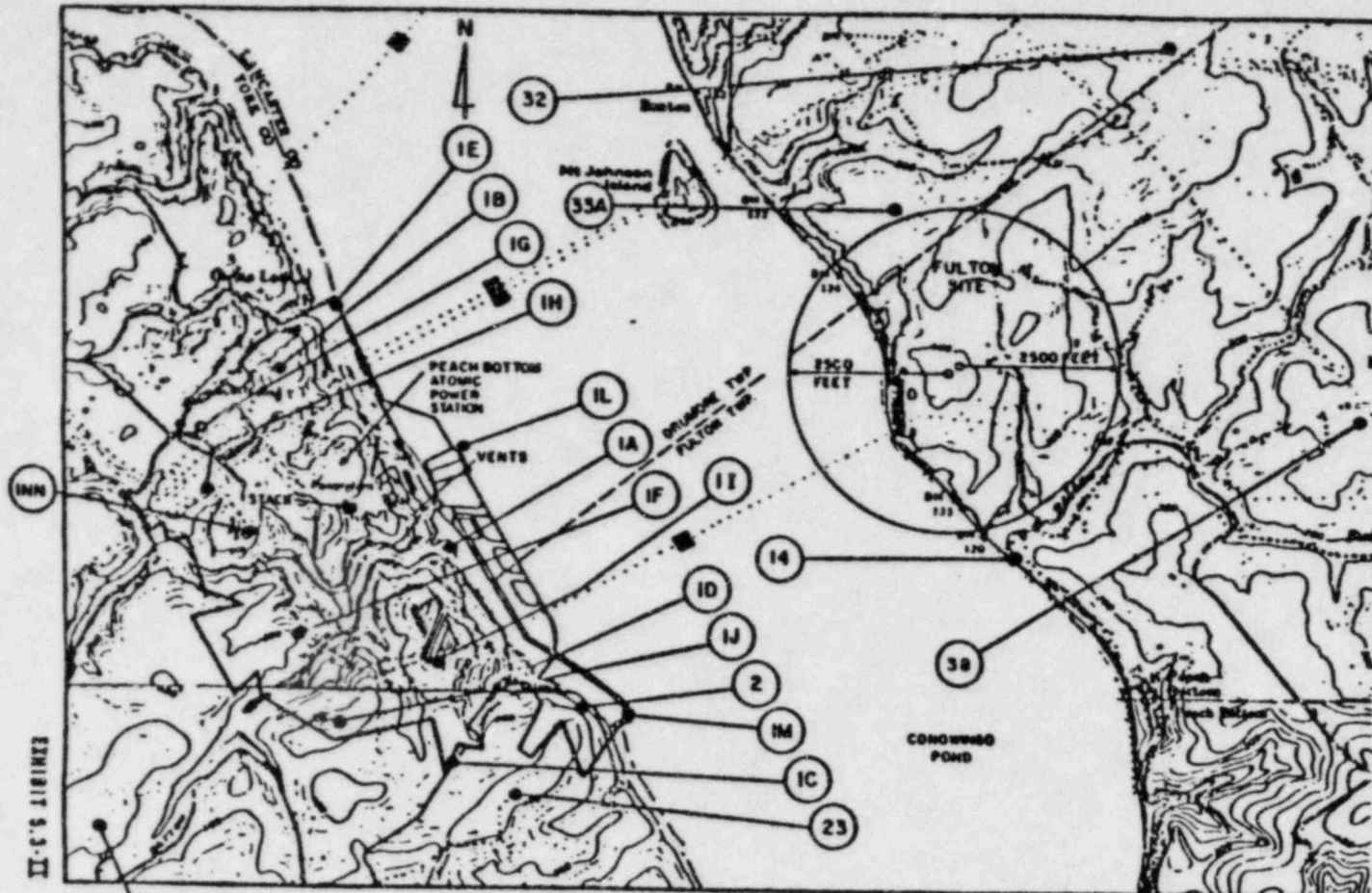
EMERGENCY ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM STATIONS

<u>MEDIA</u>	<u>STATION GROUP</u>	<u>STATION NUMBER</u>	<u>FROM OFFGAS STACK DIRECTION</u>	<u>FROM BUILDING VENTS DIRECTION</u>
Milk	Near	G	S, SSW	SSW
		J	W	W
		O	SW	SW
	Intermediate Distance	D	NE	NE
		L	NE	NE
		H	ENE	ENE
		N	ENE	ENE
	Distance	A	WSW	WSW
		B	S	S
		C	NW	NW
		E	N	N

LOCATION DESCRIPTION

Surface Water	1N	Discharge Canal Exit
	13A	Chester Water Intake - Conowingo Pond
	4P	Conowingo Dam - El 11' NSL
	6A	Holtwood - Hydroelectric Station forebay (Control)





NOTE: EXHIBIT 5.3-1 LISTS THE STATIONS CURRENTLY IN USE.

LEGEND

- GAMMA DOSIMETER STATIONS (TLD)
 - ⊙ IA PEACH BOTTOM WEATHER STATION #1
 - ⊙ IB PEACH BOTTOM WEATHER STATION #2
 - IC PEACH BOTTOM SOUTH SUBSTATION RD
 - ID PEACH BOTTOM 140° SECTOR SITE BOUNDARY
 - IE PEACH BOTTOM 330° SECTOR SITE BOUNDARY
 - IF PEACH BOTTOM SITE - 200° SECTOR HILL
 - IG PEACH BOTTOM NORTH SUBSTATION
 - IH PEACH BOTTOM SITE - 270° SECTOR HILL
 - II PEACH BOTTOM SOUTH SUBSTATION
 - IJ PEACH BOTTOM SITE - 180° SECTOR HILL
 - IL PEACH BOTTOM UNITS 2 & 3 INTAKE
 - IM PEACH BOTTOM CANAL DISCHARGE
 - 2 PEACH BOTTOM 130° SECTOR HILL
 - 14 PETERS CREEK
 - 23 PEACH BOTTOM 150° SECTOR HILL OFF SITE
 - 32 SLATE HILL ROAD
 - 33A FULTON WEATHER STATION
 - 38 PEACH BOTTOM ROAD
 - INN PEACH BOTTOM SITE - 260° SECTOR
 - 40 PEACH BOTTOM SIDE AREA - 210° SECTOR
- ⊙ AIR PARTICULATE AND IODINE MONITORS AT THOSE LOCATIONS
- NOTE:
STATIONS IA AND IZ ARE AT THE SAME LOCATION ONLY IZ HAS AN AIR IODINE FILTER

TLD and Air Particulate and Iodine Monitoring Stations
On or Near Peach Bottom Site

- AIR PARTICULATE AND IODINE MONITORS AT THOSE LOCATIONS
(A.P. ONLY AT 38)
- *3A DELTA, PA.-SUBSTATION
- *4A, B CONOWINGO DAM-POWERHOUSE ROOF
- *5 WAKEFIELD, PA.
- *6B HOLTWOOD DAM-HYDROELECTRIC STATION
- *14 PETERS CREEK
- *15 SILVER SPRING ROAD
- *17 RIVERVIEW ROAD
- 22 EAGLE ROAD
- 23 PEACH BOTTOM-150° SECTOR OFF SITE
- 26 SLAB ROAD
- 27 NORTH COOPER ROAD
- *31 PILOTOWN ROAD
- *32 SLATE HILL ROAD
- *33A FULTON WEATHER STATION
- *38 PEACH BOTTOM ROAD
- 40 PEACH BOTTOM SITE AREA
- 42 MUDDY RUN ECOLOGICAL LAB
- 43 DRUMORE TOWNSHIP SCHOOL
- 44 GOSHENMILL ROAD
- 45 PB-KEENEY LINE
- 46 BROADCREEK
- 47 BROADCREEK SCOUT CAMP
- 48 MACTON SUBSTATION
- 49 PB-CONASTONE LINE
- 50 TRANSCO PIPELINE SITE
- 51 FIN SUBSTATION

TITLE TLD AND AIR PARTICULATE MONITOR STATIONS WITHIN 10 MILES OF PEACH BOTTOM SITE

APPENDIX I-EPOST EMERGENCY ENVIRONMENTAL SAMPLE COLLECTION
FOR PEACH BOTTOM UNITS 2 AND 3

I. Air Particulates

A. Sampling Locations

Recover samples from stations located in the prevailing 22-1/2 degree downwind sector(s) from each release point and each contiguous sector, or the nearest neighboring sector(s) if there are no stations in these sectors. See Appendices I-C and I-D for location and direction of sampling stations from PBAPS off gas stack and/or building vents.

B. Sampling Method

Note: No air particulate filters shall be removed unless they are immediately replaced with new filters (Gelman type AE, 47 mm preferred). Record the type filter used.

1. On a sample collection information sheet, record adjacent to each station number the date, time of day and running time meter reading at the time of filter exchange.
2. Stop the air pump and carefully remove the filter from the filter holder and place individually into a clean envelope marked with the environmental station number. (See Appendices I-C and I-D.)

APPENDIX I-E

3. Install a new clean filter in the filter holder with the matted surface out and return the sampler to operation.
4. Transport all filters recovered and sample collection information to Conowingo Hydroelectric Station for pickup by the RMC courier.

II. Air Iodines

A. Sampling Locations

Recover samples located in the prevailing 22-1/2 degree downwind sector(s) from each release point and each contiguous sector, or the nearest neighboring sector(s) if there are no stations in these sectors. See Appendices I-C and I-D for location and direction of sampling stations from PBAPS offgas stack and/or building vents.

B. Sampling Method

Note: No air iodine filters shall be removed unless they are immediately replaced with new filters (Radeco/SAI CP-100 charcoal cartridge).

1. On a sample collection information sheet record adjacent to each station number the date, time of day and running time meter reading at the time of filter exchange.
2. Stop the air pump and carefully remove the filter from the filter holder and place individually into a clean envelope marked with the environmental station number. (See Appendices I-C and I-D).

APPENDIX I-E

3. Install a new clean filter cartridge with the arrow in the direction of air flow and return the sampler to operation.
4. Transport all filters recovered and sample collection information to Conowingo Hydroelectric Station for pickup by the RMC courier.

III. TLD's

A. Sampling Locations

Recover samples from stations located in the prevailing 22-1/2 degree downwind sector(s) from each release point and each contiguous sector, or the nearest neighboring sector(s) if there are no stations in these sectors. See Appendices I-C and I-D for location and direction of sampling stations from PBAPS off gas stack and/or building vents.

B. Sampling Method

1. At the stations where TLD's are to be recovered, remove the emergency TLD packets which are color-coded orange.
2. Replace each packet of TLD's with a corresponding new set.
3. Record the sample ID numbers (installed and removed), TLD Station Number, date, and time of day of TLD exchange on sample collection information sheets.

APPENDIX I-E

4. After all dosimeters are removed, package them in a polyethylene bag with the in-transit control TLD's color-coded orange, and transport the package and sample collection information to Conowingo Hydroelectric Station for pickup by RMC courier.

NOTE: The in-transit control TLD is located in a lead shield in the primary sample collector's garage.

All TLD's are to be stored in a portable lead shield to reduce contamination from plume sources.

IV. Pasture Grass and Broad Leaf Vegetation

A. Sampling Locations

Recover pasture grass (or broad leafy green vegetation if pasture grass is not available) samples in the prevailing downwind 22-1/2 degree sector each release point and each contiguous sector at distances as directed by the Environmental Sampling Coordinator.

B. Sampling Method

1. Cut top portion of exposed vegetation and recover approximately 5 lbs. weight at each sampling location.
2. Place in clean polyethylene bags and seal.
3. Label each bag numerically.
4. On a sample collection information sheet record the number that appears on the polyethylene bag. Adjacent to each number record the date, time of day and detailed description of where the sample was taken.

APPENDIX I-E

5. Transport the samples collected and collection information to Conowingo Hydroelectric Station for pickup by RMC courier.

V. Surface Water

A. Sampling Locations - See Appendix I-C

B. Sampling Method

1. With a clean container obtain a 2 gallon grab sample of water and pour into a clean polyethylene bottle. Place cap tightly on bottle.
2. Label each bottle with the station number where collected.
3. On a sample collection information sheet record, adjacent to each station number, the date and time of day of sample collection.
4. Transport samples and collection information to Conowingo Hydroelectric Station for pickup by courier.

VI. Milk

A. Sampling Location - See Appendix I-C

B. Sampling Method

APPENDIX I-E

1. Remove 2 gallons of milk from the dairy's agitated bulk tank and place into a new polyethylene bottle and cap tightly.
2. Label each bottle with the farm designation letter where collected.
3. On a sample collection information sheet, record the date, time of sample collection and date when the bulk tank was last emptied.
4. If the bulk tank is empty upon arrival at a farm, return to the farm at a time following the next milking.
5. Transport the samples and collection information to Conowingo Hydroelectric Station for pickup by courier.

APPENDIX II-ALGS
TELEPHONE LIST OF PERSONNEL TO BE CONTACTED
BY THIS PROCEDUREI. Environmental Sampling Coordinator

Primary - George Daebeler (215) 841-4516 (Office)
(215) 696-1428 (Home)

Alternate - Alan Marie (215) 841-6378 (Office)
(609) 627-3744 (Home)

II. RMC Emergency Coordinator and Radiological Laboratory

Primary - Paul Harmon (215) 326-9662 (office)
(215) 385-3833 (home)
(215) 894-7772 (radio pager)

Alternate - Doug Wahl (215) 243-2950 (office)
(215) 664-4274 (home)

Alternate (215) 243-2990*

*Note: Ask for Emergency Coordinator. If no one is at RMC, the PECO load dispatcher's office at 215-387-5013 will automatically be called. Caller should ask L.D. to contact RMC and have them contact him at his number.

III. Analysis of Samples - Consultant Laboratories

Teledyne Isotopes (201) 664-7070

Alternate 1 - David Martin (201) 391-1676 (Home)

Alternate 2 - Hewitt Jeter (201) 767-3359 (Home)

VI. Health Physics and Chemistry Coordinator

Primary - Walter Knapp
Alternate - Jim Fongheiser

V. Field Survey Team Leader

Primary - (TO BE COMPLETED BY ELECTRIC PRODUCTION)
Alternate -

APPENDIX II-B

LGS

LABORATORY ANALYSIS OF POST EMERGENCY ENVIRONMENTAL SAMPLES

The following analyses will be performed by Teledyne Isotopes on the post-emergency environmental samples collected:

1. Air Particulates (each filter)
 - a) Gamma Spec
 - b) Gross beta (wait at least 24 hours following sample collection)
2. Air Iodine
 - a) Gamma Spec
3. Surface Water
 - a) Gamma Spec (unprepared sample)
4. Pasture Grass and Broad Leaf Vegetation
 - a) Gamma Spec (unprepared sample)
5. Milk
 - a) Gamma Spec (unprepared sample)
6. TLD - read in accordance with normal procedures

APPENDIX II-CEMERGENCY ENVIRONMENTAL RADIOLOGICAL MONITORING STATIONS
FOR LIMERICK UNITS 1 AND 2

<u>MEDIA</u>	<u>STATION GROUP</u>	<u>STATION NUMBER</u>	<u>DIRECTION</u>	<u>DISTANCE FROM BUILDING VENTS</u>	
Air Particulates and Radioiodine	Site	1153	E	0.5	
		1151	ESE	0.5	
		1451	SE	0.6	
		3451*	NNW	0.6	
	Intermediate Distance	2B1*	NNE	1.5	
		17B1*	S	1.6	
		26B1*	W	1.7	
		29B1*	WNW	1.8	
		35B1*	NNW	1.9	
		6C1*	NE	2.1	
		9C1*	E	2.2	
		13C1	SE	2.9	
		15D1*	SE	3.2	
		20D1*	SSW	3.1	
		31D1	NW	3.0	
	Distant	22G1	SW	17.6	
		13H4	SE	28.8	
	TLD	Site	3651	N	0.6
			351	NNE	0.6
551			NE	0.4	
751			ENE	0.5	
1053			E	0.5	
1151			ESE	0.5	
1451			SE	0.6	
1652			SSE	0.6	
1851			S	0.3	
2151			SSW	0.5	
2352			SW	0.6	
2551			W	0.5	
2653			WSW	0.4	
2951			WNW	0.5	
3251			NW	0.6	
3452	NNW	0.6			

* Indicates station with air particulate only.

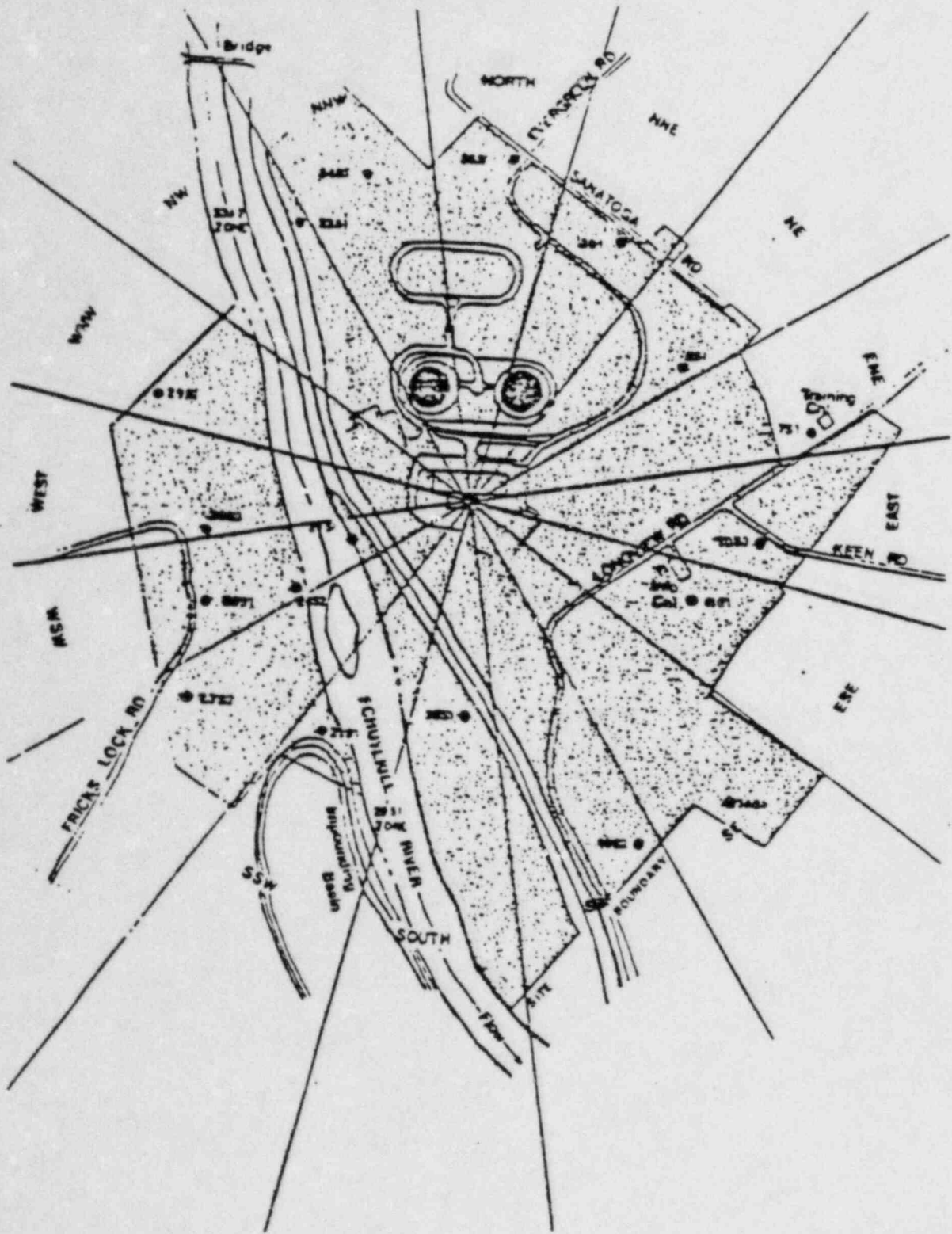
APPENDIX II-C

<u>MEDIA</u>	<u>STATION GROUP</u>	<u>STATION NUMBER</u>	<u>DIRECTION</u>	<u>DISTANCE FROM BUILDING VENTS</u>
	Intermediate Distance	2B1	NNE	1.5
		2E1	NNE	1.5
		4E1	NE	4.6
		6C1	ENE	2.1
		7E1	ENE	4.2
		9C1	E	2.2
		10E1	E	3.9
		10F3	ESE	5.5
		13C1	SE	2.9
		13E1	SE	4.4
		15D1	SE	3.2
		16F1	SSE	4.9
		17B1	S	1.6
		19D1	S	3.6
		20D1	SSW	3.1
		20F1	SSW	5.2
		24D1	SW	3.9
		25D1	WSW	4.0
		26B1	W	1.7
		28D2	W	3.8
	29B1	WNW	1.8	
	29E1	WNW	4.9	
	31D1	NW	3.0	
	31D2	NW	3.8	
	34E1	NNW	4.6	
	35B1	NNW	1.9	
	35F1	N	4.2	
	Distant	5H1	NE	25.8
		13HJ	SE	28.2
		18G1	S	12.9
		22G1	SW	17.6
		32G1	NW	15.6
Surface Water		10F2	Graterford Intake Pumping Station	
		16B2	Linfield Bridge	
		15F5	Phila. Suburban Water Company	

APPENDIX I-C

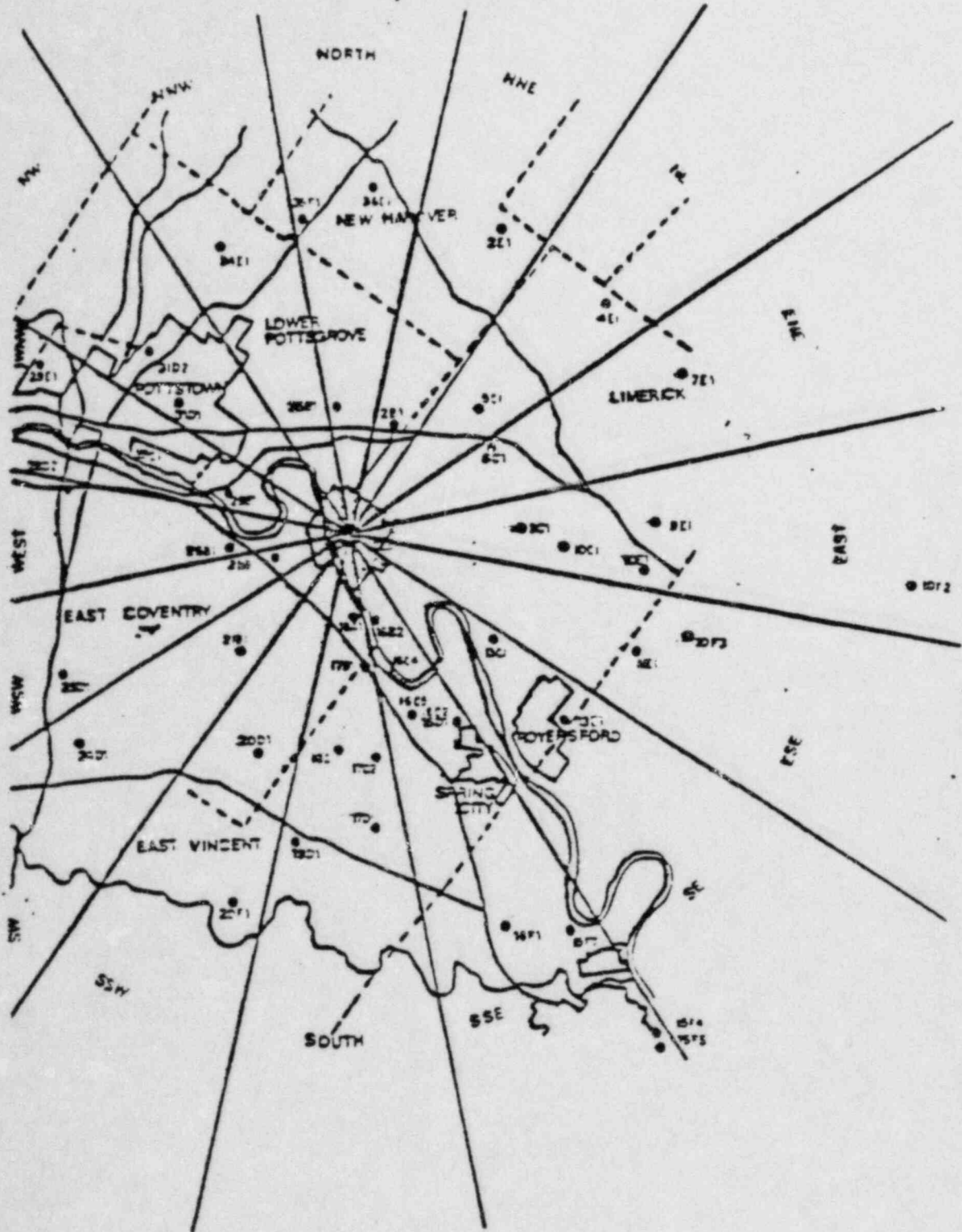
<u>MEDIA</u>	<u>STATION GROUP</u>	<u>STATION NUMBER</u>	<u>DIRECTION</u>	<u>DISTANCE FROM BUILDING VENTS</u>
Surface Water (continued)		24S1	Limerick Generating Station Intake	
		24S2	Fricks Lock Boat House	
Drinking Water		15F4	Phila. Suburban Water Company	
		15F7	Phoenixville Water Company	
		13H2	Belmont-Phila. Water Company	
		28F3	Pottstown Water Water Authority	
		16C2	Citizens Home Water Water Company	
Milk (1)		36E1	N	4.7
		5C1	NE	2.6
		9G1	E	11.4
		9E1	E	4.1
		10C1	ESE	2.8
		11E1	ESE	4.9
		18C1	S	1.9
		21B1	SW	1.7
		22F1	SW	9.8
		25B1	WSW	1.3
	10B1	ESE	1.1	
	17C2	S	2.5	

(1) Dairy farm selection is subject to change.



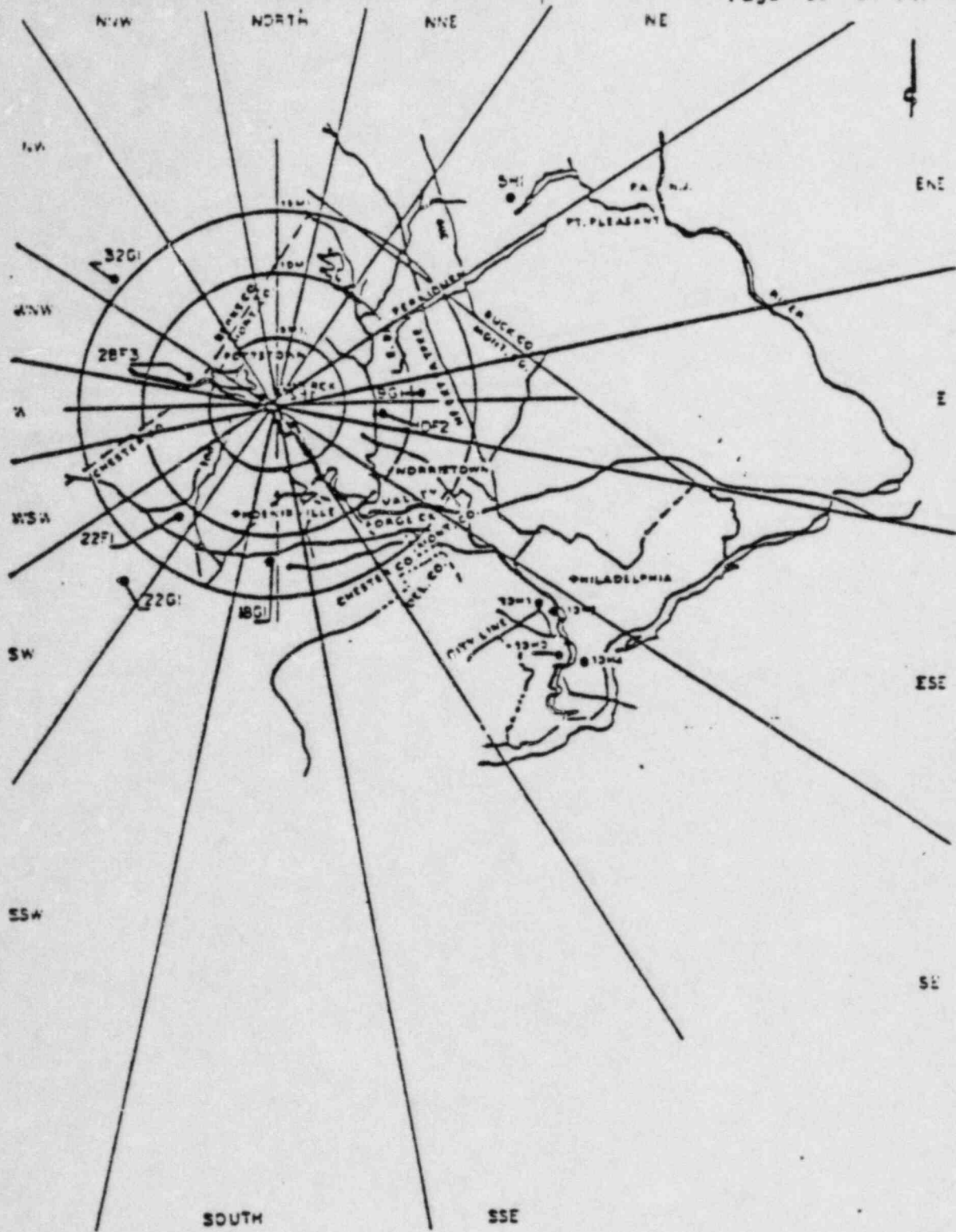
LIMERICK GENERATING STATION
UNITS 1 AND 2

ENVIRONMENTAL SAMPLING STATIONS
SITE BOUNDARY



LIMERICK GENERATING STATION
UNITS 1 AND 2

ENVIRONMENTAL SAMPLING STATIONS
INTERMEDIATE DISTANCE



LIMERICK GENERATING STATION UNITS 1 AND 2
ENVIRONMENTAL SAMPLING STATIONS DISTANT LOCATIONS