DISTRIBUTION CONTROL LIST

Document Name: EMER PLAN

CC_NAME	NAME	DEPT	LOCATION
1	PLANT MANAGER'S OFFICE	UNIT 3(UNIT 3/IPEC ONLY)	45-3-B
2	EP/TRAINING ADMINISTRATOR	TRAINING (ALL EP'S)	#48
3	RES DEPARTMENT MANAGER	RES (UNIT 3/IPEC ONLY)	45-4-A
4	REFERENCE LIBRARY	REC/TRN(UNT 3/IPEC ONLY)	BLDG/17
9	JOINT NEWS CENTER	EMER PLN (ALL EP'S)	EOF
10	SHIFT MGR.(LUB-001-GEN)	OPS (UNIT 3/IPEC ONLY)	IP3
11	CONTROL ROOM & MASTER	OPS(3PT-D001/6(U3/IPEC)	IP3(ONLY)
14	EOF	E-PLAN (ALL EP'S)	EOF
16	AEOF/A.GROSJEAN(ALL EP'S)	E-PLAN (EOP'S ONLY)	WPO-12D
19	NUC ENGINEERING LIBRARY	DOC (UNIT 3/IPEC ONLY)	WPO/7A
21	TSC	RECORDS	45-3-F
22	RESIDENT INSPECTOR	US NRC(UNIT 3/IPEC ONLY)	45-2-B
23	SILK DAVID	NRC (ALL EP'S)	OFFSITE
24	SILK DAVID	NRC (ALL EP'S)	OFFSITE
25	DOCUMENT CONTROL DESK	NRC (ALL EP'S)	OFFSITE
28	AVRAKOTOS N	J A(UNIT 3/IPEC ONLY)	OFFSITE
29	E-PLAN STAFF	E-PLAN (ALL EP'S)	EOF
30	E-PLAN STAFF	E-PLAN (ALL EP'S)	EOF
31	BARANSKI J(VOLUME I ONLY)	ST. EMERG. MGMT. OFFICE	OFFSITE
32	SUTTON A -(VOLUME I ONLY)	DISASTER & EMERGENCY	WESTCHESTR
33	LONGO N (VOLUME I ONLY)	EMERGENCY SERVICES	ROCKLAND
34	GREENE D (VOLUME I ONLY)	DISASTER & CIVIL DEFENSE	ORANGE
35	RAMPOLLA M(VOLUME I ONLY)	OFFICE OF EMERG MANAGE	PUTNAM
41	SIMULATOR	TRAIN(UNIT 3/IPEC ONLY)	48-2-A
107	QA MANAGER	QA (UNIT 3/IPEC)	TRL #2A
319	C.STELLATO(NRQ-OPS TRN)	NRQ (UNIT 3/IPEC ONLY)	#48
354	L.GRANT(LRQ-OPS/TRAIN)	LRQ (UNIT 3/IPEC ONLY)	#48
376	E-PLAN STAFF	E-PLAN (ALL EP'S)	EOF
424	J.CHIUSANO(OPS INSTR)	(UNIT 3/IPEC ONLY)	#48
510	L.GRANT(LRQ-OPS/TRAIN)	LRQ (UNIT 3/IPEC ONLY)	#48
511	L.GRANT(LRQ-OPS/TRAIN)	LRQ (UNIT 3/IPEC ONLY)	#48
512	C.STELLATO(NRQ-OPS TRN)	NRQ (UNIT 3/IPEC ONLY)	#48
513	C.STELLATO(NRQ-OPS TRN)	NRQ (UNIT 3/IPEC ONLY)	#48
517	PLANT MANAGER'S OFFICE	ADMIN/(UNIT 2/IPEC ONLY)	IP2
518	DOCUMENT CONTROL	UNIT 2(UNIT 2/IPEC ONLY)	IP2
520	CONTROL ROOM (UNIT 2)	OPS (UNIT 2 & IPEC ONLY)	IP2
521	SIMULATOR	TRAIN (UNIT 2/IPEC ONLY)	IP2
522	NRC RESIDENT	US NRC(UNIT 2/IPEC ONLY)	IP2
523	ROBERT VOGLE (UNIT 2)	TRAIN/LIB (ALL EP'S)	TODDVILLE
524	JOHN MCCANN (UNIT 2)	NUC SAFETY/LIC(ALL EP'S)	IP2

A045

TO: Nuclear Regulatory Commission 25

FROM: IPEC Emergency Planning #27154

SUBJECT: Emergency Planning Document Update

Date: 3/6/03

Please update your controlled copy of the documents listed below as specified with the copy(s) attached.

Please sign this memo indicating that you have completed the update as specified and return to:

Entergy Nuclear
Indian Point Nuclear Generating Station
Records and Documents Department
Broadway & Bleakley Aves.
Buchanan, NY 10511
Attn: Document Custodian

Document #	Document Name	New Rev. #/ Date	Old Rev. #/ Date	Instructions
Unit 2	**Unit 2 Emergency Plan Implementing Procedures**			
TOC	Table of Contents	3/03	11/20/02	Replace old with new
IP-1002	Emergency Notification and Communication	Rev 29 3/6/03	Rev 28 8/21/02	Replace old with new
IP-1010	Central Control Room	Rev 9 3/6/03	Rev 8 10/31/02	Replace old with new
IP-1015	Radiological Monitoring Outside the Protected Area	Rev 11 3/6/03	Rev 10 10/19/02	Replace old with new
IP-1030	Emergency Operations Facility	VOID	Rev 8 11/20/02	Delete Entire Document

Update completed as specified: _____
Signature of Controlled Copy Holder Date

Unit 2 Emergency Plan Implementing Procedures
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Procedure No.	Procedure Title	Rev. No.	Effective Date
IP-1001	Mobilization of Onsite Emergency Organization	13	5/25/01
IP-1002	Emergency Notification and Communication	29	3/6/03
IP-1003	Planned Discharge of Containment Atmosphere During Accident Conditions	7	4/16/01
IP-1004	Post Accident Offsite Environmental Surveys, Sampling and Counting	5	9/1/99
IP-1007	**Cancelled – Replaced by IP-EP-310**	-	-
IP-1008	Personnel Radiological Check and Decontamination	7	4/29/02
IP-1009	Radiological Check and Decontamination of Vehicles	7	9/1/99
IP-1010	Central Control Room	9	3/6/03
IP-1011	Joint News Center	8	8/29/02
IP-1012	Onsite Medical Emergency	10	5/25/01
IP-1013	**Cancelled – Replaced by IP-EP-410**	-	-
IP-1014	Radiological Check of Equipment Before It Leaves the Site	6	9/1/99
IP-1015	Radiological Monitoring Outside the Protected Area	11	3/6/03
IP-1016	**Cancelled – Replaced by IP-EP-510**	-	-
IP-1019	Coordination of Corporate Response	11	11/20/01
IP-1020	Airborne Activity Determination	8	01/12/01
IP-1021	**Cancelled**	-	-
IP-1022	**Cancelled – Replaced by IP-EP-510**	-	-
IP-1023	Operations Support Center (OSC)	19	8/21/02
IP-1024	Emergency Classification	11	7/11/02
IP-1025	Cancelled	-	-
IP-1026	Emergency Data Acquisition	1	10/31/02
IP-1027	Personnel Accountability and Evacuation	17	8/21/02
IP-1030	**Cancelled – replaced by IP-EP-250**	-	-
IP-1033	**Cancelled – Replaced by IP-EP-520**	-	-
IP-1035	Technical Support Center (TSC)	17	9/23/02

Unit 2 Emergency Plan Implementing Procedures
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IP-1002
Rev. 29

Emergency Notification and Communication

Prepared by:	Daria Sullivan Weaver Print Name	Daria Sullivan-Weaver Signature	3/3/03 Date
Approval:	Frank Inzirillo Print Name	Frank Inzirillo Signature	3/3/03 Date

Effective Date: 3/6/03

Reference Use

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EMERGENCY NOTIFICATION AND COMMUNICATION

1.0 PURPOSE

To prescribe the responsibilities and methods for:

1.1 Initial notification and periodic updates made from the Central Control Room (CCR) in the event of a declared emergency at Indian Point Unit 1, 2 & 3.

1.2 Provides checklists for the performance of notifications and activation of the Emergency Response Organization.

2.0 DISCUSSION

2.1 The Shift Manager will assign a CCR Communicator. The CCR Communicator will have no other emergency duties.

2.2 The CCR Communicator shall perform his duties in the Control Room under the SM's direction. These duties shall entail implementing the notification checklists and use of RECS, radio, and other telephones (Section 4.0) to notify on-site personnel as well as the off-site authorities of the accident conditions and to pass along directions and recommendations as appropriate from the SM. The Communicator shall also maintain himself ready to supply updates to the offsite authorities.

2.3 Notifications made from the EOF are described in IP-EP-250, Emergency Operations Facility.

3.0 PRECAUTIONS AND LIMITATIONS

3.1 Initial and Upgrade notifications to the State and counties shall be initiated within 15 minutes of the emergency classification declaration or initial Protective Action Recommendations or modifications to the Protective Action Recommendations.

3.2 Periodic Update Notifications should be performed approximately every 30 minutes or more frequent when conditions change.

4.0 EQUIPMENT AND MATERIALS

4.1 Local Government Radio (LGR) - see Addendum 1 for call letters. For backup notifications IF RECS is out of service.

4.2 "Contingency" Phone - see Emergency Telephone Directory for unlisted number to be used only for receiving incoming calls from New York State AND the four EPZ counties.

4.3 Radiological Emergency Communications System (RECS) - party line phone for initial notification AND updates to NYS AND counties.

4.4 ENS Phone - dial-up telephone circuits used to contact NRC headquarters for initial notification of emergency AND continuing updates. (See Emergency Telephone Directory for listed numbers).

4.5 CR-EOF - direct line, with bell annunciation by means of push button.

4.6 CR-TSC direct line, automatic ringing phone.

4.7 Peekskill Police - direct line, automatic ringing phone.

4.8 NYS Police - direct line, automatic ringing phone.

4.9 Phone – Peekskill (914) 737 Exchange (see Emergency Telephone Directory).

4.10 Phone - Indian Point (914) 734 Exchange (see Emergency Telephone Directory).

4.11 Dialogic Notification System - primary notification system to mobilize the ERO.

5.0 INSTRUCTIONS

NOTE:
All phone numbers not provided within this procedure can be found in the Emergency Telephone Directory.

5.1 Notification of Unusual Event (NUE) Initial Notification - CCR Communicator

5.1.1 Obtain the completed and approved Radiological Emergency Data Form PART I from the Shift Manager. THEN

A. Review form for completeness.

B. Determine if the Shift Manager wants full ERO activation at the NUE level (not normally required).

C. ALWAYS refer to the form as NYS Radiological Emergency Data Form PART I (Form EP-1) when talking to the State and County authorities.

5.1.2 Start the initial notification roll call to state and counties within 15 minutes of the declaration of an Unusual Event.

5.1.3 Use a CCR NUE Notification Checklist, IP-EP-115, Form EP-3 to make and document the initial notifications.

5.1.4 Once the CCR NUE Notification Checklist is complete, **IF** the SM requests additional staffing level **THEN** perform the following:

A. Contact the on-call Emergency Director (ED) (refer to the Emergency Response Team On-call Schedule for duty ED.)

B. Request the activation of desired portions of the Emergency Response Organization On-Call Team to provide plant support.

5.2 NUE Update Notifications - CCR Communicator

5.2.1 Make periodic updates approximately every 30 minutes throughout the event.

5.2.2 Obtain the completed and approved Radiological Emergency Data Form PART I from the Shift Manager. THEN:

A. Review form for completeness.

B. ALWAYS refer to the form as Radiological Emergency Data Form PART I when talking to the State and County authorities.

5.2.3 Use a CCR NUE Notification Checklist, IP-EP-115, Form EP-3 and perform **ONLY the circled items**, to make the periodic Update Notifications.

NOTE:

The CCR Alert/ SAE/GE Initial Notification Checklist, IP-EP-115, Form EP-4 is used only once. After notifications are completed using this form, all subsequent upgrade and update notifications shall be made using the Upgrade/Update Notification Alert/SAE/GE Checklist, IP-EP-115, Form EP-5.

5.3 Alert, Site Area Emergency AND General Emergency Initial Notification – CCR Communicator

5.3.1 Use a CCR Initial Notification Checklist Alert/SAE/GE, IP-EP-115, Form EP-4 to make and document the initial notifications.

5.3.2 Obtain the completed and approved Radiological Emergency Data Form PART I (Form EP-1) from the Shift Manager.

A. Review form for completeness.

B. Verify that the Shift Manager wants the Assembly Alarm Sounded

C. ALWAYS refer to the form as Radiological Emergency Data Form PART I when talking to the State AND the county authorities.

5.3.3 Start the initial notification roll call to State and counties within 15 minutes of the declaration of an Alert, Site Area Emergency (SAE) or General Emergency (GE).

5.4 Alert / SAE / GE Upgrade/Update Notifications – CCR/EOF Communicator

5.4.1 Upgrade/Update notifications are made for EAL upgrades and for periodic updates during an Alert, Site Area Emergency (SAE) or General Emergency (GE).

5.4.2 Use an Upgrade/Update Notification Alert/SAE/GE Checklist, IP-EP, Form EP-5 to make and document the emergency classification upgrade or update notifications.

5.4.3 Obtain the completed Radiological Emergency Data Form Part I, Form EP-1 (and Part II, Form EP-2, if provided) from the Shift Manager/Emergency Director AND notify NY State and counties within 15 minutes of any emergency classification change or approximately every 30 minutes otherwise

6.0 REFERENCES

6.1 Development Documents

6.1.1 Emergency Plan for Indian Point Unit Nos. 1 & 2

6.1.2 SAO-804, "Emergency Response Organization"

6.2 Interface Documents

6.2.1 SOP-CG-7-1, "Notification During Nuclear Emergency Involving IP No. 2"

6.2.2 IP-1001, "Mobilization of Onsite Emergency Organization"

6.2.2 IP-1018, "Media Relations Mobilizing During Emergency"

6.2.4 IP-1027, "Personnel Accountability and Evacuation"

6.2.5 IP-EP-115, "Emergency Plan Forms"

6.2.6 IP-EP-250, "Emergency Operations Facility"

6.3 Commitments

NONE

7.0 ATTACHMENTS

NONE

8.0 8.0 ADDENDUM

8.1 Addendum 1, Indian Point Emergency Local Government Radio (LGR) System

8.2 Addendum 2, Backup - ERO Activation Checklist (Form IP-1002-4)

8.3 Addendum 3, Primary - ERO Activation Checklist (Form IP-1002-5)

Addendum 1

INDIAN POINT EMERGENCY LOCAL GOVERNMENT RADIO (LGR) SYSTEM

Sheet 1 of 1

LOCAL GOVERNMENT RADIO (LGR) [45.16 MHZ]

Base Station Location	Call Letters
CR, EOF, AEOF	[KNFM-394]
So. Dist. Office	[WZM-947]
Westchester W.P.	[WRU-873]
Orange W.P.	[WAU-720]
Rockland W.P.	[KRH-269]
Putnam W.P.	[KFC-781]
Peekskill W.P.	(NONE)

Addendum 2

Backup - Emergency Response Organization Activation Checklist (Form IP-1002-4)

Sheet 1 of 2

Backup - ERO Activation Checklist

A. Backup Notification System Activation:

1. Use the Backup Notification System ONLY if the Primary Dialogic system fails to activate.
2. Verify Control Room Pagers are on.
3. Call. **9-1-866-521-7099**
4. Upon hearing the following message: "*This is the DCC Service Bureau. Please enter your company ID number followed by the pound (#) sign.*"
5. **Enter Company ID** and **Press #.** — **4732 #**
6. Upon hearing the following message: "*Please enter Scenario Activation Password followed by the pound (#) sign.*"
7. **Enter Activation Password** found in Dialogic Envelope and **Press #:** — _ _ _ _ _ _ #
8. After entering the Activation Password you will hear the following message: "*To start a scenario, enter the Scenario ID Number followed by the pound (#) sign, or press pound alone for more options.*"
9. **Enter Scenario ID Number** found in Dialogic Envelope and **Press #:** — _ _ _ _ _ _ #
10. After entering the Scenario ID Number you will hear the following message: "*To start a scenario press 1, to stop a scenario press 2, to check scenario information press 3, to enter a different scenario activation password press 4, to end this call press pound (#)* **Press:** — **3 #**

    NOTE: Press pound (#) to end the call.
11. **WHEN** you hear the following message: "*Goodbye*" **THEN** Hang-up.
12. Enter the time you completed Dialogic activation — **Time:**

    NOTE: Continue on with offsite notifications while waiting for verification of pager activation
13. Verify the backup notification system successfully activated by either Control Room pager sounding **IF** the pager did not activate, **THEN** go to Part B.
14. Inform the Shift Manager that you have completed ERO activation using the Backup System.
15. Date and sign this form when complete — **Date:** | **Signature:**

Continue ONLY if Control Room Pagers Did Not Activate

16. Contact Security SAS at **734-5330** and ask if the Security pager activated.
17. **IF** Security pager activated **THEN** go to step 14.
18. **IF** Security pager did not activate **THEN** repeat steps 3 through 11 one additional time.

    IF during the 2nd attempt, on step 10, you hear: "*The scenario is currently active. Do you wish to stop the scenario.*" **THEN** do not stop the scenario. **Press: 6** You will then hear: "*To start a scenario press 1, to stop a scenario press 2, to check scenario information press 3, to enter a different scenario activation password press 4, to end this call press pound (#).* **Press: #**
19. **IF** a Control Room or Security pager does not sound after the 2nd attempt **THEN** manually activate the Group Page using Part B of this form.

Addendum 2

Backup - Emergency Response Organization Activation Checklist (Form IP-1002-4)

Sheet 2 of 2

Backup - ERO Activation Checklist

B. Manual Group Page Activation:

1. Use the Manual Group Page Activation ONLY if the Primary AND Backup Dialogic systems both fail to activate.
2. Request direction from Shift Manger (Emergency Director) as to ERO mobilization needed: Unit 2, Unit 3 or Station activation (Unit 2 and Unit 3).
3. Depending on mobilization needed, call each Group Page phone number:
4. To Activate **BOTH** UNIT 2 and UNIT 3 ERO's, **COMPLETE** steps 5 a. and b.:

5.a. To Activate **UNIT 2 ERO** (only):
Dial Unit 2 Plant Group Page number: 9-1-917-457-8432
Enter Event Code _____ (in Dialogic Envelop)

Dial JNC & EOF ERO Group Page Number: 9-1-917-649-1901
Enter Event Code _____ (in Dialogic Envelop)

5.b. To Activate **UNIT 3 ERO** (only):
Dial Unit 3 Plant Group Page number: 9-1-800-436-2732
Enter PIN number 714 1973
Enter Event Code ___ ___ ___ (In Dialogic Envelop)

Dial JNC & EOF ERO Group Page Number: 9-1-917-649-1901
Enter Event Code _____ (in Dialogic Envelop)

6. Upon entering the three digit Event Code you will hear a series of short, rapid beeps, indicating that the message has been sent. Hang up.
7. Enter time you completed activating pagers **Time:**
8. Verify that the correct message was sent by confirming the pager message received on the Control Room or Security pager is same as the three digit Event Code.
9. **IF** the Event Code is incorrect on the Control Room pager **THEN immediately** call the Group Page Phone Number (above) and send the "Disregard Last Message" code as listed below. **Press:** **999 #**
10. Upon entering the three digit Event Code you will hear a series of short, rapid beeps, indicating that the message has been sent. Hang up
11. **IF** Control Room and Security pagers fail to activate **THEN** inform Shift Manager that you are unable to mobilize the ERO.

Addendum 3

Primary - Emergency Response Organization Activation Checklist (Form IP-1002-5)

Sheet 1 of 1

Primary - ERO Activation Checklist

Dialogic Notification Systems Activation:

1. Verify that Shift Manager has determined that ERO mobilization is needed.
2. Verify Control Room Pagers are on.
3. Call: **9-788-7771**
4. You will hear: "*This is the remote activation module. Please enter scenario activation password followed by the pound (#) sign.*"
5. **Enter Activation Password** and **Press #:** _ _ _ _ _ _ #
6. After entering the activation password you will hear the following message: "*To start a scenario, enter the scenario ID number followed by the pound (#) sign, or press pound alone to enter more options.*"
7. **Enter Scenario Number** and **Press #:** _ _ _ _ _ _ #
8. After entering the Scenario Number you will hear: "*The pager event code is* (three digit number). *Press 1 to change the pager event code. Press 2 to continue.*"

NOTE: Do NOT change the three digit event code regardless of what code is given. **Press:** 2

9. After entering "2" you will hear: "*To start the scenario, press 3, followed by the pound sign (#).*

Press: 3 #

10. **WHEN** you hear: "*Goodbye*" **THEN** Hang-up.
11. Enter the time you completed Dialogic activation. **Time:**

NOTE: Continue on with offsite notifications while waiting for verification of pager activation

12. Verify the notification system successfully activated by either Control Room pager sounding. **IF** neither pager activates within 3 minutes, **THEN** go to Step 15.
13. Inform the Shift Manager that you have completed ERO activation.
14. Date and sign this form when complete: **Date:** | **Signature:**

Continue ONLY if Control Room Pagers Did Not Activate

15. Contact Security SAS at **734-5330** and ask if the Security pager activated.
16. **IF** Security pager activated **THEN** go to step 13.
17. **IF** Security pager did not activate **THEN** repeat steps 3 through 10 one additional time.

    IF during the 2nd attempt, on step 8, you hear: "*The scenario is currently active. Do you wish to stop the scenario.*" **THEN** do not stop the scenario. **Press: 6** You will then hear: "*To start a scenario press 1, to stop a scenario press 2, to check scenario information press 3, to enter a different scenario activation password press 4, to end this call press pound (#).* **Press: #**

18. **IF** a Control Room or Security pager does not sound after the 2nd attempt **THEN** activate the Backup Notification System per Form IP-1002-4, Backup - Emergency Response Organization Activation Checklist.

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IP-1010
Rev. 9

CENTRAL CONTROL ROOM (CCR)

Prepared by:	Daria Sullivan Weaver Print Name	Daria Sullivan-Weaver Signature	3/3/03 Date
Approval:	Frank Inzirillo Print Name	Frank Inzirillo Signature	3/3/03 Date

Reference Use

Effective Date: 3/6/03

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CENTRAL CONTROL ROOM (CCR)

1.0 PURPOSE

To describe emergency response activities and operations of the Central Control Room (CCR).

To provide guidance for the response to emergencies declared at Unit 3.

2.0 DISCUSSION

None

3.0 PRECAUTIONS AND LIMITATIONS

None

4.0 EQUIPMENT AND MATERIALS

The following types of equipment and materials are utilized for emergency response in the CCR:

4.1 PICS for accessing plant data.

4.2 MEANS Computer program for performing dose assessment, protective action recommendations and preparing Part I and II NYS Radiological Data Forms.

4.3 Plant Procedures

4.4 Plant Drawings

4.5 Emergency Communication Systems (in addition to normally available systems)

- 4.5.1 Emergency Management Hotline (SM-EPM-ED)
- 4.5.2 CCR/TSC/EOF 3-way Ring-down line (CCR-TSC Communicator)
- 4.5.3 Radiological Emergency Communications System (RECS)
- 4.5.4 FTS-2001 Emergency Notification System - (NRC)
- 4.5.5 Local Government Radio (backup to RECS)
- 4.5.6 Emergency Plan pre-programmed facsimile machine

5.0 INSTRUCTIONS

5.1 For a Unit 2 emergency, the Shift Manager (SM) shall follow the instructions outlined in Attachment 1, Shift Manager (Emergency Director) Checklist.

5.2 For a Unit 3 emergency, the Shift Manager (SM) shall follow the instructions outlined in Attachment 6, Unit 2 Response to a Unit 3 Emergency Checklist.

5.3 For a Security emergency, the Shift Manager (SM) shall follow the instructions outlined in Attachment 7, Shift Manager (Emergency Director) Security Event Checklist.

5.4 The CCR Communicator shall follow the instructions outlined in Attachment 2, CCR Communicator Checklist.

5.5 The CCR-TSC Communicator shall follow the instructions outlined in Attachment 3, CCR-TSC Communicator Checklist.

5.6 The CCR Data Logger shall follow the instructions outlined in Attachment 4, CCR Data Logger Checklist.

5.7 The Watch Health Physics Technician shall follow the instructions outlined in Attachment 5, Watch Health Physics Technician Checklist.

6.0 REFERENCES

6.1 IP-1001, "Mobilization of Onsite Emergency Organization"

6.2 IP-1002, "Emergency Notification and Communication

6.3 IP-1024 "Emergency Classification"

6.4 IP-1027 "Personnel Accountability and Evacuation"

6.5 IP-EP-115 "Emergency Plan Forms"

6.6 IP-EP-310 "Dose Assessment"

6.7 IP-EP-410 "Protective Action Recommendations"

6.8 IP-EP-610 "Termination and Recovery"

7.0 ATTACHMENTS

7.1 Attachment 1, Shift Manager (Emergency Director) Checklist.

7.2 Attachment 2, CCR Communicator Checklist

7.3 Attachment 3, CCR-TSC Communicator Checklist

7.4 Attachment 4, CCR Data Logger Checklist

7.5 Attachment 5, Watch Health Physics Technician Checklist

7.6 Attachment 6, Unit 2 Response to a Unit 3 Emergency Checklist

7.7 Attachment 7, Shift Manager (Emergency Director) Security Event Checklist

8.0 ADDENDUM

NONE

Attachment 1

Shift Manager (Emergency Director) Checklist

Sheet 1 of 9

Initial Responsibility/Activity	Notes
1.0 Classification of the Emergency Authority to classify and declare an emergency is reserved solely for the Emergency Director and may not be delegated. The SM in the role of Emergency Director makes the initial emergency classification.	
1.1 Classify the emergency condition in accordance with IP-1024 "Emergency Classification".	
1.2 **IF** a General Emergency is declared, **THEN** protective action recommendations must be made in accordance with IP-EP-410, Protective Action Recommendations.	
1.3 Declare the emergency and announce the classification to Control Room personnel.	
1.4 Ensure Unit 3 Control Room is notified of the emergency classification.	
1.5 At an Alert or higher classification, ensure the Unit 3 Site Assembly alarm is sounded (coordinate with Unit 3 CCR).	
2.0 Notification – Unusual Event State and local authorities shall be notified within 15 minutes of emergency declaration.	
2.1 **IF** the initial emergency classification is an Alert or higher **THEN** proceed to step 3.0.	
2.2 Ensure CCR Communicator to available. **IF** CCR Communicator is unavailable **THEN** direct a qualified individual to serve as CCR Communicator.	
2.3 Complete (or have completed) and sign a Form EP-1 (IP-EP-115) "NYS Radiological Emergency Data Form, Part I."	
2.4 Direct notification of offsite authorities by providing the completed and signed NYS Radiological Data Form Part I to the CCR Communicator.	
2.5 Determine if Emergency Response Organization mobilization is needed or if Emergency Response Organization should receive event notification only: A. **IF** based on Shift Manager (Emergency Director) judgment the Emergency Response Organization should be activated, **THEN** direct the CCR Communicator use **Envelope B** "Unit 2 ERO Mobilization" envelope as indicated on Form EP-3 (IP-EP-115) "CCR NUE Notification Checklist." B. **IF** based on Shift Manager (Emergency Director) judgment the Emergency Response Organization should be called and notified only, **THEN** direct the CCR Communicator use **Envelope C** "Unit 2 ERO Event Notification" envelope as indicated on Form EP 3 (IP-EP-115) "CCR NUE Notification Checklist."	

Attachment 1

Shift Manager (Emergency Director) Checklist

Sheet 2 of 9

Initial Responsibility/Activity(cont.)	Notes
3.0 Notification & Mobilization - Alert, Site Area or General Emergency Once the EOF is activated, all offsite communications shall be performed by the EOF staff. The following steps are for initial classification at the Alert level or higher. State and local authorities shall be notified within 15 minutes of emergency declaration. 3.1 Ensure CCR Communicator to available. **IF** CCR Communicator is unavailable **THEN** direct a qualified individual to serve as CCR Communicator. 3.2 Complete (or have completed) and sign a Form EP-1 (IP-EP-115) "NYS Radiological Emergency Data Form, Part I." **NOTE** IP-1027 "Personnel Accountability and Evacuation" provides guidance for the suspension of personnel accountability under certain conditions. 3.3 **IF** personnel assembly is suspended, **THEN** inform the CCR Communicator prior to directing personnel mobilization and instruct him **NOT** to sound the site assembly alarm. **NOTE** **IF** adverse conditions exist onsite to an extent impacting safety of Emergency Response Organization personnel responding from outside the Protected Area, **THEN** consider having Security direct responding personnel to the Emergency Operations Facility rather than reporting directly to their assigned emergency facility. 3.4 Determine if this is a Unit 2 ERO mobilization or a Station ERO mobilization (both Unit 2 and Unit 3). 3.5 **IF** based on Shift Manager judgment the Emergency Response Organization is needed for both Unit 2 and Unit 3, **THEN** direct the CCR Communicator to use **Envelope A** "Station ERO Mobilization" envelope as indicated on Form - 4 (IP-EP-115) "CCR Alert/SAE/GE Initial Notification Checklist". 3.6 **IF** based on Shift Manager judgment the Emergency Response Organization mobilization is needed for Unit 2, **THEN** direct the CCR Communicator to use **Envelope B** "Unit 2 ERO Mobilization" envelope as indicated on Form EP-4 (IP-EP-115) "CCR Alert/SAE/GE Initial Notification.Checklist".	

Attachment 1

Shift Manager (Emergency Director) Checklist

Sheet 3 of 9

Initial Responsibility/Activity(cont.)	Notes
4.0 Establish Personnel Accountability **NOTES** Accountability rosters are located in the Shift Manager Position Binder. The Shift Manager may call for accountability to be completed any time conditions due to hazards in the plant such as fire, toxic gas, high radiation levels, earthquake etc. are present. 4.1 **IF** a Site Area Emergency or General Emergency has been declared, and personnel accountability has not already been established, **THEN** initiate site personnel accountability per IP-1027, Personnel Accountability and Evacuation. 4.2 Have all shift staff personnel (including Shift Watch HP and Chemistry) swipe their security badge through the CCR accountability card reader. Record the names, badge numbers and locations of any watch personnel located in the field on an Accountability Roster, Form IP-1027-1 and forward roster to the Lead Accountability Officer or OSC Manager (if OSC activated). 4.3 **IF** any individuals are missing, **THEN** direct available personnel and Security to conduct search and rescue operations to locate the missing individuals. **5.0 Assess Any Radiological Release** The MEANS computer program is available for the performance of dose projections and the formulation of protective action recommendations. 5.1 **IF** any indications exist of abnormal radiological release as a result of the emergency, **THEN** assess offsite consequences in accordance with IP-EP-310, Dose Assessment. 5.2 **IF** dose assessment results indicate offsite consequences in excess of the EPA Protective Action Guidelines **THEN** declaration of a General Emergency is required. Evaluate the need to modify the General Emergency PARs as specified in Attachment 10.2 of IP-EP-410, Protective Action Recommendations.	

Attachment 1

Shift Manager (Emergency Director) Checklist

Sheet 4 of 9

Continuous Responsibility/Activity (Emergency Director)	Notes
NOTES **IF** while performing the Continuous Responsibility/Activity steps as Emergency Director, you are relieved of Emergency Director duties by the EPM or On-Call ED, **THEN** exit this section and enter the Continuous Responsibility/Activity (Shift Manager) section at step 11.0.	
6.0 Re-Classify the Emergency if Necessary	
6.1 **IF** plant conditions change or other events occur which may warrant upgrade of the emergency classification, **THEN** re-classify the emergency condition in accordance with IP-1024 "Emergency Classification".	
6.2 **IF** a General Emergency is declared, **THEN** protective action recommendations must be made in accordance with IP-EP-410, Protective Action Recommendations.	
6.3 Declare the emergency and announce the classification to Control Room personnel.	
6.4 Complete (or have completed) and sign a Form EP-1 (IP-EP-115) "NYS Radiological Emergency Data Form, Part I."	
6.5 Direct the CCR Communicator to perform notifications using Form EP-5 (IP-EP-115) "Upgrade/Update Notification Alert/SAE/GE Checklist".	
7.0 Establish Radiological Controls and Maintain Onsite Personnel Safety	
7.1 Keep the Security Supervisor at the Command Guard House informed of emergency classification, plant status and any radioactive releases, which may effect Security Personnel.	
7.2 Once established, maintain personnel accountability.	
7.3 **IF** the potential for abnormal radiological conditions in-plant or onsite exists, **THEN**: A. Direct the Watch Health Physics Technician to establish radiological controls for the Central Control Room and initiate habitability monitoring for the Central Control Room. B. Evaluate the need to perform a site evacuation per IP-1027, Personnel Accountability and Evacuation. C. Authorize emergency exposure, if necessary, per Form IP-1023-6, Emergency Exposure Authorization.	

Attachment 1

Shift Manager (Emergency Director) Checklist

Sheet 5 of 9

	Continuous Responsibility/Activity (Emergency Director)	Notes
7.4	IF an on-site medical emergency occurs, THEN implement IP-1012, On-site Medical Emergency.	
8.0	**Perform Periodic Update Notifications**	
8.1	Periodic update notifications to offsite authorities should be made approximately every 30 minutes or more frequently when plant conditions change.	
8.2	For each update notification, complete (or have completed) and sign a Form EP-1 (IP-EP-115) "NYS Radiological Emergency Data Form, Part I."	
8.3	IF there has been a radiological release above Technical Specifications to the environment, THEN complete (or have completed) and sign a Form EP-2 (IP-EP-115) "NYS Radiological Data Form, **Part II**.	
8.4	For periodic update notifications during an **Unusual Events**, direct the CCR Communicator to perform update notifications using Form EP-3 (IP-EP-115) "CCR NUE Notification Checklist".	
8.5	For periodic update notifications during an **Alert or higher** classifications, direct the CCR Communicator to perform update notifications using Form EP-5 (IP-EP-115) "Upgrade/Update Notification Alert/SAE/GE Checklist".	

Attachment 1

Shift Manager (Emergency Director) Checklist

Sheet 6 of 9

Continuous Responsibility/Activity (Emergency Director)	Notes
9.0 Turnover Emergency Director Responsibilities **NOTE:** For Unusual Events, the Shift Manager will normally maintain the Emergency Director responsibilities until the classification is terminated per IP-EP-610, Emergency Termination & Recovery. For Alert and higher classifications, the Emergency Plant Manager will relieve the Shift Manager of Emergency Director duties in the Control Room. The On-Call Emergency Director in the EOF at his discretion may assume Emergency Director duties directly from the Shift Manager via telephone turnover. 9.1 Provide a status briefing to the Emergency Plant Manager upon his arrival in the Central Control Room. The Emergency Plant Manager will request status on all of the information specified on Form IP-1035-2, Essential Information Checklist. 9.2 Provide copies of all completed NYS radiological Emergency Data forms to the Emergency Plant Manager. 9.3 Resume duties as Shift Manager and proceed to step 11.0 in the Continuous Responsibility/Activity (Shift Manager) section.	
10.0 Terminate the Emergency (Unusual Event Only) 10.1 When conditions warrant termination of the Unusual Event, enter IP-EP-610 Emergency Termination & Recovery and terminate the emergency per section 6.1 "Transition and Recovery Following an Unusual Event." 10.2 Exit this section after termination of the emergency and enter the Closeout Responsibility/Activity section at step16.0.	

Attachment 1

Shift Manager (Emergency Director) Checklist

Sheet 7 of 9

Continuous Responsibility/Activity (Shift Manager)	Notes
11.0 Evaluate Emergency Action Levels 11.1 Continue to evaluate current plant condition and events relative to the emergency action levels as specified in IP-1024, Emergency Classification. 11.2 Make recommendations to the Emergency Director and Emergency Plant Manager for upgrading of the emergency classification as appropriate.	
12.0 Maintain Communications with the Emergency Plant Manager and Emergency Director 12.1 Keep the Emergency Plant Manager and Emergency Director informed of current plant status and planned operations. 12.2 Discuss tasks and procedures the Control Room is currently performing and review priorities on a regular basis. 12.3 IMMEDIATELY inform the Emergency Plant Manager and Emergency Director of any plant condition or event that has the potential to change the emergency classification or affect radiological release status.	
13.0 Coordinate In-Plant Team Activities with the Operations Coordinator in the OSC **NOTE:** Once the OSC is activated, the dispatch of personnel into the field for emergency operations is controlled from the OSC. Communications and directions can be provided to the teams from the Control Room, however, the OSC must retain team control for personnel safety and continuous accountability. 13.1 Once the OSC is activated, coordinate the dispatch and control of NPOs assigned to perform in-plant operations with the Operations Coordinator located in the OSC.	Operations Coordinator telephone # in OSC: **734-5556**

Attachment 1

Shift Manager (Emergency Director) Checklist

Sheet 8 of 9

Continuous Responsibility/Activity (Shift Manager)	Notes
13.2 For operations teams already dispatched and in the field prior to the OSC being activated, coordinate the transfer of team control to the OSC with the Operations Coordinator. 13.3 Direct requests for in-plant operational support IMMEDIATELY to the Operations Coordinator in the OSC to facilitate prompt response to Control Room needs. Keep the Emergency Plant Manager informed of all requests. 13.4 Re-enforce Control Room priorities and needs with the Emergency Plant Manager if in-plant team support is not being provided in a timely and effective manner.	
14.0 Request Technical Support as Needed to Mitigate the Emergency 14.1 Request the TSC Manager to provide forward-looking technical support as needed to assist the Control Room staff in responding to the emergency. 14.2 Provide the Emergency Plant Manager and TSC Manager with periodic briefs on current mitigation strategies and emergency procedures currently being implemented.	
15.0 Exit to Recovery Phase 15.1 Upon notification from the Emergency Director that the emergency has been terminated, exit this section and enter the Closeout Responsibility/Activity section at step 16.0.	

Attachment 1

Shift Manager (Emergency Director) Checklist

Sheet 9 of 9

Closeout Responsibility/Activity	Notes
16.0 Direct the Control Room staff to return all equipment utilized in the response to proper storage locations	
17.0 Review all documentation the Control Room staff generated during the emergency: 17.1 Ensure all logs, forms and other documentation are complete. 17.2 Ensure all temporary procedures used and/or developed are properly documented for use by the Recovery Organization so that necessary actions can be taken for long-term restoration. 17.3 Collect all computer printouts and strip charts.	
18.0 Provide all logs and records to the Recovery Manager upon termination of the emergency and entry into the Recovery Phase.	

Attachment 2

CCR Communicator Checklist

Sheet 1 of 4

Initial Responsibility/Activity		Notes
1.0	**Assume the Duties of CCR Communicator** State and local authorities shall be notified within 15 minutes of emergency declaration.	
1.1	Upon being notified to fulfill the CCR Communicator role, IMMEDIATELY report to the Control Room.	
1.2	IF site accountability has been directed, **THEN** swipe your security badge through the CCR accountability card reader.	
1.3	Inform the Shift Manager (Emergency Director) and the Control Room staff that you have assumed the duties of CCR Communicator.	
1.4	IF the emergency classification is an Unusual Event, **THEN**, proceed to step 2.0.	
1.5	IF the emergency classification is an Alert or higher, **THEN**, proceed to step 3.0.	
2.0	**Perform Initial Unusual Event Notifications**	
2.1	Obtain the completed NYS Radiological Emergency Data Form Part I from the Shift Manager.	
2.2	Review form to ensure all required information is completed, including Shift Manager (Emergency Director) signature.	
2.3	Using Form EP-3 (IP-EP-115), "CCR NUE Notification Checklist", start the initial roll call to State and counties within 15 minutes of the declaration of the Unusual Event.	
2.4	Complete Section 1 of the NYS Radiological Data Form Part I, by recording the date and time the message is being transmitted as well as checking the appropriate communication method (RECS or Other).	
2.5	Request direction from Shift Manger (Emergency Director) if Emergency Response Organization mobilization is needed or if Emergency Response Organization should receive event notification only.	Fax numbers can be found in the Emergency Telephone Directory
2.6	Complete the remaining notifications as specified on the Form EP-3.	

Attachment 2

CCR Communicator Checklist

Sheet 2 of 4

Initial Responsibility/Activity	Notes
2.7 **Fax copies** of the NYS Radiological Data Form to State/counties/ EOF.	Fax numbers can be found in the Emergency Telephone Directory
3.0 Perform Initial Alert/SAE/GE Notifications	
3.1 Determine if personnel accountability is being suspended from the Shift Manager.	
NOTE: Form EP-4 (IP-EP-115), CCR Alert/SAE/GE Initial Notification Checklist is used **only** once. After notifications are complete using this form, all subsequent upgrade and update notifications shall be made using Form EP-5 (IP-EP-115), Upgrade/Update Notification Alert/SAE/GE Checklist.	
3.2 Using Form EP-4 (IP-EP-115), CCR Alert/SAE/GE Initial Notification Checklist, initiate notification of personnel located in the Protected Area, Unit 3 CCR and the Emergency Response Organization.	
3.3 Obtain the completed NYS Radiological Emergency Data Form Part I from the Shift Manager. Review form to ensure all required information is completed, including Shift Manager (Emergency Director) signature.	
3.4 Using Form EP-4 (IP-EP-115), CCR Alert/SAE/GE Initial Notification Checklist, start the initial roll call to State and counties within 15 minutes of the declaration of the Alert, SAE or GE.	
3.5 Complete Section 1 of the NYS Radiological Data Form Part I, by recording the date and time the message is being transmitted as well as checking the appropriate communication method (RECS or Other).	
3.6 Complete the remaining notifications as specified on the Form EP-4 checklist.	Fax numbers can be found in the Emergency Telephone Directory
3.7 **Fax copies** of the NYS Radiological Data Form to State/counties/ EOF.	

Attachment 2

CCR Communicator Checklist

Sheet 3 of 4

Continuous Responsibility/Activity	Notes
4.0 Perform Periodic Update Notifications – Unusual Event **NOTE:** Periodic Update Notifications to offsite authorities shall be made approximately every 30 minutes or whenever conditions change.	
4.1 Obtain the completed NYS Radiological Emergency Data Form Part I from the Shift Manager. A. Review form to ensure all required information is completed, including Shift Manager (Emergency Director) signature.	
4.2 Using Form EP-3 (IP-EP-115), CCR NUE Notification Checklist, perform **ONLY the circled items**, to make the periodic update notifications.	
4.3 Complete Section 1 of the NYS Radiological Data Form Part I, by recording the date and time the message is being transmitted as well as checking the appropriate communication method (RECS or Other).	Fax numbers can be found in the Emergency Telephone Directory
4.4 **Fax copies** of the NYS Radiological Data Form to State/counties/ EOF.	

Attachment 2

CCR Communicator Checklist

5.0 Perform Periodic Update Notifications – Alert/SAE/GE **NOTE:** Periodic Update Notifications to offsite authorities shall be made approximately every 30 minutes or whenever conditions change. 5.1 Obtain the completed NYS Radiological Emergency Data Form Part I (Part II if a radiological release above Technical Specifications has occurred or is in progress) from the Shift Manager. A. Review form to ensure all required information is completed, including Shift Manager (Emergency Director) signature. 5.2 Using Form EP-5 (IP-EP-115), Upgrade/Update Alert/SAE/GE Checklist, start the initial roll call to State and counties. 5.3 Complete Section 1 of the NYS Radiological Data Form Part I, by recording the date and time the message is being transmitted as well as checking the appropriate communication method (RECS or Other).	Fax numbers can be found in the Emergency Telephone Directory

Continuous Responsibility/Activity	Notes
5.4 Complete the remaining notifications as specified on the Form EP-5.	

Attachment 2

CCR Communicator Checklist

6.0	**IE the Emergency Classification is Upgraded, THEN Perform Upgrade Notifications**	
6.1	Using Form EP-5 (IP-EP-115), Upgrade/Update Alert/SAE/GE Checklist, initiate notification of personnel located in the Protected Area, Unit 3 CCR and the Emergency Response Organization.	
6.2	Obtain the completed NYS Radiological Emergency Data Form Part I from the Shift Manager. A. Review form to ensure all required information is completed, including Shift Manager (Emergency Director) signature.	
6.3	Using Form EP-5 (IP-EP-115), Upgrade/Update Alert/SAE/GE Checklist, start the initial roll call to State and counties within 15 minutes of upgrade of the emergency classification.	
6.4	Complete Section 1 of the NYS Radiological Data Form Part I, by recording the date and time the message is being transmitted as well as checking the appropriate communication method (RECS or Other).	Fax numbers can be found in the Emergency Telephone Directory
6.5	Complete the remaining notifications as specified on the checklist.	
7.0	**When directed by the Shift Manager, return all equipment utilized in the response to proper storage locations**	
8.0	**Review all documentation the generated during the emergency:**	
8.1	Ensure all logs, forms and other documentation are complete.	
8.2	Collect all forms, logs and other documentation.	
9.0	**Provide all logs and records to the Shift Manager upon termination of the emergency and entry into the Recovery Phase.**	

Attachment 3

CCR-TSC Communicator Checklist

Sheet 1 of 2

Initial Responsibility/Activity	Notes
1.0 Assume the Duties of CCR-TSC Communicator	
1.1 Upon being notified to fulfill the CCR-TSC Communicator role, IMMEDIATELY report to the Control Room.	
1.2 IE site accountability has been directed, **THEN** swipe your security badge through the CCR accountability card reader.	
1.3 Inform the Shift Manager and the Control Room staff that you are assuming the duties of CCR-TSC Communicator.	
1.4 If not already established, establish an open line of communications with the TSC Communicator and EOF (EOF may not always be on line) over the 3-way ring down phone: A. Remove handset from cradle (may use headset if available). B. Press button labeled "TSC-CCR-EOF" C. Press SIGNAL button to ring other locations. D. Listen to ensure other parties pick up (it may take additional time for the TSC Communicator to arrive in TSC) E. Inform other parties that you are establishing an open line from the CCR. F. Stay on line or inform other parties any time you will be offline.	
1.5 Inform the Shift Manager that you have established communications with the TSC and EOF.	
Continuous Responsibility/Activity	**Notes**
2.0 Maintain Communications with the TSC and EOF	
NOTE: The primary responsibility of the CCR-TSC Communicator is to provide an open line of communication between the CCR and TSC, however, the Technical Advisor to the Emergency Director in the EOF will periodically monitor the communications line or will request information from the CCR and TSC.	
2.1 Transmit information as requested by the TSC and EOF.	

Attachment 3
CCR-TSC Communicator Checklist
Sheet 2 of 2

Continuous Responsibility/Activity (cont.)		Notes
2.2	Use Form IP-1023-4, ERO Log Sheet, to maintain a log. A. Log the time when you assumed the duties of CCR-TSC Communicator B. Log significant communications pertaining to plant operations and emergency events.	
Closeout Responsibility/Activity		**Notes**
3.0	**When directed by the Shift Manager, return all equipment utilized in the response to proper storage locations**	
4.0	**Review all documentation the generated during the emergency:**	
4.1	Ensure all logs, forms and other documentation are complete.	
4.2	Collect all forms, logs and other documentation..	
5.0	**Provide all logs and records to the Shift Manager upon termination of the emergency and entry into the Recovery Phase.**	

Attachment 4
CCR Data Logger Checklist
Sheet 1 of 3

Initial Responsibility/Activity	Notes
1.0 Assume the Duties of CCR-Data Logger 1.1 Upon being notified to fulfill the CCR-Data Logger role, IMMEDIATELY report to the Control Room. 1.2 IF site accountability has been directed, THEN swipe your security badge through the CCR accountability card reader. 1.3 Inform the Shift Manager and the Control Room staff that you are assuming the duties of CCR Data Logger.	
2.0 Initiate Data Acquisition 2.1 Begin manual data collection and entry into PICS: A. Activate the manual overlay functions of PICS on the PICS console. egin manual data collection and entry into PICS from the SPDS Secondary Menu. 1. Screen 42B Left - Enter equipment status 2. Screen 42B Right – Enter equipment status and Accumulator levels 3. Screen 42C - Enter values for text boxes provided 2.2 IF PICS is not functional, THEN begin manual collection of data for the following forms for manual transmission to the TSC: A. Form IP-1026-1, Plant Parameters – 42A B. Form IP-1026-2, Equipment Status – 42B C. Form IP-1026-3, Radiological Data – 42C Completed forms should be faxed or physically delivered to the TSC.	

Continuous Responsibility/Activity	Notes
3.0 Maintain Up-to-Date Plant Data Transmissions **NOTE:** The primary responsibility of the CCR-Data Logger is to provide constant updates of manually acquired plant data for input into PICS. If PICS is not functional the CCR-Data Logger is responsible for manual acquisition and transmission of plant data as needed. However, additional requests for plant information may be made by the TSC or EOF. 3.1 Maintain [PICS manual input data up-to-date: A. Update manual data points at least every **15 minutes** and any time there is a significant change in value or status. f there is any qualifying information that may be important or useful for the TSC or EOF to be aware of regarding data being manually entered into PICS, pass that information on via the CCR-TSC Communicator. 3.2 **IF** PICS is not functional, **THEN** continue manual collection of data for the following forms for manual transmission to the TSC: A. Form IP-1026-1, Plant Parameters – 42A B. Form IP-1026-2, Equipment Status – 42B C. Form IP-1026-3, Radiological Data – 42C Completed forms should be faxed or physically delivered to the TSC.	
4.0 Use Form IP-1023-4, ERO Log Sheet, to maintain a log. A. Log the time when you assumed the duties of CCR-TSC Communicator B. Log significant communications pertaining to plant operations and emergency events.	

Sheet 3 of 3

Closeout Responsibility/Activity		Notes
5.0	**When directed by the Shift Manager, return all equipment utilized in the response to proper storage locations**	
6.0	**Review all documentation generated during the emergency:**	
6.1	Ensure all logs, forms and other documentation are complete.	
6.2	Collect all forms, logs and other documentation..	
7.0	**Provide all logs and records to the Shift Manager upon termination of the emergency and entry into the Recovery Phase.**	

Attachment 5

Watch Health Physics Technician Checklist

Sheet 1 of 3

Initial Responsibility/Activity	Notes
1.0 Assume the Duties of Watch Health Physics Technician	
1.1 Upon being notified of a classified emergency, IMMEDIATELY report to the Control Room.	
A. IF the declared emergency is an Alert or higher, THEN first proceed to HP1 and determine who has NOT signed out of the RCA by accessing the computer (Option 3 main menu, option 1 sub-menu).	
B. Report list of personnel still in RCA to the Shift Manager.	
1.2 IF site accountability has been directed, THEN swipe your security badge through the CCR accountability card reader.	
1.3 Inform the Shift Manager and the Control Room staff that you are assuming the duties of Watch Health Physics Technician.	
2.0 Establish Initial CCR Radiological Protection	
2.1 Evaluate the need and make a recommendation to establish radiological access control for the Control Room	
A. Ask the Shift Manager if there is potential for abnormal radiological conditions outside of the RCA.	
B. Evaluate PRM-ARM instrumentation.	
2.2 IF the Shift Manager directs that Control Room radiological controls be established, THEN:	
A. Set up step off pad (SOP) requiring shoe check and frisker at the entrance from the turbine floor to SFS Office and at the side entrance.	
B. Place SOPs in a position that does not preclude opening the door while standing on the SOP.	
C. Perform periodic contamination surveys on both sides of the SOP	
D. Perform periodic airborne contamination checks.	
E. Record results on applicable forms.	

Attachment 5
Watch Health Physics Technician Checklist
Sheet 2 of 3

Continuous Responsibility/Activity	Notes
3.0 Provide Radiological Protection **NOTE:** The actions and responsibilities listed in this procedure are intended to assist the Watch Health Physics Technician in the performance of his/her duties. While some items are performed once, others are repeated over the duration of the event. 3.1 Provide radiological support, such as issuance of dosimetry, determination of respiratory and protective clothing requirements, and performance of radiological surveys for the following activities, as directed by the Shift Manager: A. Search and rescue B. Repair and corrective actions C. Response to fires by Fire Brigade (includes survey /decontamination of Fire Department personnel and equipment) D. Personnel and equipment decontamination E. As requested by the Shift Manager 3.2 Conduct outside surveys per IP-1015, Radiological Surveys Outside the Protected Area as requested by the Shift Manager 3.3 Provide Radiological Support for Personnel Medical Emergencies A. Upon notification that a personnel medical emergency has occurred onsite, report to the scene with the HP Plant Medical Emergency Kit (stored in the HPT Office/Counting Room Area). B. Implement Step 5.4 of IP-1012, On-Site Medical Emergency.	
4.0 Use Form IP-1023-4, ERO Log Sheet, to maintain a log. A. Log the time when you assumed the duties of Watch Health Physics Technician. B. Log significant communications pertaining to personnel radiological conditions and actions.	

Attachment 5

Watch Health Physics Technician Checklist

Sheet 3 of 3

Continuous Responsibility/Activity (Cont)		Notes
5.0	**Turnover to OSC Radiation Protection Coordinator**	
5.1	Once the OSC has been activated, upon direction from the Shift Manager, report to the OSC Radiation Protection Coordinator in the OSC.	
Closeout Responsibility/Activity		**Notes**
6.0	**When directed by the Shift Manager, return all equipment utilized in the response to proper storage locations**	
7.0	**Review all documentation the generated during the emergency:**	
7.1	Ensure all logs, forms and other documentation are complete.	
7.2	Collect all forms, logs and other documentation..	
8.0	**Provide all logs and records to the Shift Manager upon termination of the emergency and entry into the Recovery Phase.**	

Attachment 6
Unit 2 Response to a Unit 3 Emergency Checklist

Sheet 1 of 4

Initial Responsibility/Activity	Notes
1.0 Notification of the Emergency Upon notification from Unit 3 Control Room that an event has been declared at Indian Point 3: A. Announce the information to Control Room personnel. B. Based upon the Unit 3 emergency conditions, evaluate the need to declare an emergency at Unit 2 in accordance with IP-1024. If you determine that an EAL is met for current Unit 2 conditions, notify the Emergency Director in Unit 3. **2.0 Notification of ERO Personnel** 2.1 **UNUSUAL EVENT** 2.1.1 Make an announcement providing information regarding the Unit 3 event and any additional information as required restricting access to Unit 3 areas affected by the emergency. 2.1.2 Request direction from Unit 3 Shift Manger (Emergency Director) if Unit 3 ERO mobilization is needed or if Emergency Response Organization should receive event notification only. 2.1.3 Ensure CCR Communicator to available. **IE** CCR Communicator is unavailable **THEN** direct a qualified individual to serve as CCR Communicator. 2.1.4 **IE** based on Unit 3 Shift Manager (Emergency Director) judgment the Emergency Response Organization is needed, **THEN** direct the CCR Communicator to use **Envelope D** "Unit 3 ERO Mobilization" envelope to contact the Unit 3 ERO members. 2.1.5 **IE** based on Unit 3 Shift Manager (Emergency Director) judgment the Emergency Response Organization should be notified only, **THEN** direct the CCR Communicator to use **Envelope E** "Unit 3 ERO Event Notification" envelope to contact the appropriate ERO members.	

Attachment 6
Unit 2 Response to a Unit 3 Emergency Checklist

Sheet 2 of 4

Initial Responsibility/Activity(cont.)	Notes
2.2. **ALERT** 2.2.1 **IF** personnel are in jeopardy due to a Unit 3 emergency, **THEN** sound the Site Assembly Alarm for 30 seconds and instruct personnel to move to safety immediately. 2.2.2 **IF** there is no hazard for Unit 2 personnel, **THEN** sound the Site Assembly Alarm for 30 seconds (coordinate sounding of the assembly alarm with the Unit 3 CCR) and make the following announcement 3 times over the public address system: *"Attention all personnel, Attention all personnel, an Alert has been declared at Unit 3, all essential personnel report to your assigned emergency facility. All other personnel assemble at the Energy Education Center."* 2.2.3 Determine if this is a Unit 3 ERO mobilization or a Station ERO mobilization (both Unit 2 and Unit 3). 2.2.4 Ensure CCR Communicator to available. **IF** CCR Communicator is unavailable **THEN** direct a qualified individual to serve as CCR Communicator. 2.2.5 **IF** the Emergency Response Organization is needed for both Unit 2 and Unit 3, **THEN** direct the CCR Communicator to use **Envelope A** "Station ERO Mobilization" envelope to contact Unit 2 and Unit 3 ERO. 2.2.6 **IF** only the Unit 3 the Emergency Response Organization is needed, **THEN** direct the CCR Communicator to use **Envelope D** "Unit 3 ERO Mobilization" envelope to contact the Unit 3 ERO.	

Attachment 6
Unit 2 Response to a Unit 3 Emergency Checklist

Sheet 3 of 4

Initial Responsibility/Activity	Notes
2.3 **SITE AREA EMERGENCY or GENERAL EMERGENCY** 2.3.1 **IF** personnel are in jeopardy due to a Unit 3 emergency, **THEN** sound the Site Assembly Alarm for 30 seconds and instruct personnel to move to safety immediately. 2.3.2 **IF** there is no hazard for Unit 2 personnel, **THEN** sound the Site Assembly Alarm for 30 seconds (coordinate sounding of the assembly alarm with the Unit 3 CCR) and make the following announcement 3 times over the public address system: *"Attention all personnel, Attention all personnel, a (Site Area Emergency / General Emergency) has been declared at Unit 3, All essential personnel report to your assigned emergency facility. All other personnel assemble at the Energy Education Center."* 2.3.3 Determine if this is a Unit 3 ERO mobilization or a Station ERO mobilization (both Unit 2 and Unit 3). 2.3.4 Ensure CCR Communicator to available. **IF** CCR Communicator is unavailable **THEN** direct a qualified individual to serve as CCR Communicator. 2.3.5 **IF** the Emergency Response Organization is needed for both Unit 2 and Unit 3, **THEN** direct the CCR Communicator to use **Envelope A** "Station ERO Mobilization" envelope to contact the Unit 2 and Unit 3 ERO. 2.3.6 **IF** only the Unit 3 the Emergency Response Organization is needed, **THEN** direct the CCR Communicator to use **Envelope D** "Unit 3 ERO Mobilization" envelope to contact the Unit 3 ERO. 2.3.7 Perform Personnel Accountability per IP-1027. 2.3.8 Direct all watch staff, including the Watch HP and Chemistry, to swipe their security badge through the CCR accountability card reader.	

Attachment 6
Unit 2 Response to a Unit 3 Emergency Checklist

Sheet 4 of 4

Initial Responsibility/Activity	Notes
3.0 Provide Support to Unit 3 3.1 Upon request from the Unit 3 Emergency Director, provide a Shift HP Technician to support Unit 3 response. 3.2 Upon request from the Unit 3 Emergency Director, call-out and dispatch Offsite Field Monitoring Teams to support Unit 3 field monitoring activities. Direct offsite monitoring personnel to report to the EOF and inform the Unit 3 Emergency Director of their availability. Refer to the Emergency Telephone Directory for names and telephone numbers of qualified individuals.	
Continuous Responsibility/Activity	**Notes**
4.0 Provide Support to Unit 3 as Requested Upon request from the Unit 3 Emergency Director, provide Unit 2 personnel, equipment and resources available to you.	
5.0 Provide updates to personnel in Unit 2 with information provided by the Unit 3 Emergency Director When information is provided to you, use the public address system to disseminate that information to the personnel within the Unit 2 fence line.	
6.0 Evaluate Emergency Action Levels Continue to evaluate current plant condition and events relative to the Emergency Action Levels as specified in IP-1024, "Emergency Classification."	

Attachment 7

Shift Manager (Emergency Director) Security Event Checklist

Sheet 1 of 9

Initial Responsibility/Activity		Notes
1.0	**Activating the Emergency Response Organization during a Security Event**	
1.1	IF an emergency is declared due to a security event, THEN the ERO will be mobilized to backup locations until conditions can be established for safe site access.	
1.2	Security and Operations will take steps as directed by Safeguard instructions to protect the safety of site employees and the integrity of plant equipment.	
1.3	Site access and egress will be controlled per Security procedures.	
2.0	**Classification of the Emergency**	
	Authority to classify and declare an emergency is reserved solely for the Emergency Director and may not be delegated. The SM in the role of Emergency Director makes the initial emergency classification.	
2.1	Classify the emergency condition in accordance with IP-1024 "Emergency Classification".	
2.2	IF a General Emergency is declared, THEN protective action recommendations must be made in accordance with IP-EP-410, Protective Action Recommendations.	
2.3	Declare the emergency and announce the classification to Control Room personnel.	
2.4	Ensure Unit 3 Control Room is notified of the emergency classification.	
2.5	If a Security Event is in progress, determine if Site Assembly alarm should be sounded based on what is best for the safety of onsite personnel. Notify Unit 3 to take the same actions.	
3.0	**Notification – Unusual Event**	
	State and local authorities shall be notified within 15 minutes of emergency declaration.	
3.1	IF the initial emergency classification is an Alert or higher THEN proceed to step 4.0.	
3.2	Ensure CCR Communicator to available. IF CCR Communicator is unavailable THEN direct a qualified individual to serve as CCR Communicator.	
3.3	Complete (or have completed) and sign a Form EP-1 (IP-EP-115) "NYS Radiological Emergency Data Form, Part I."	
3.4	Direct notification of offsite authorities by providing the completed and signed NYS Radiological Data Form Part I to the CCR Communicator.	

Attachment 7

Shift Manager Security Event Checklist

Sheet 2 of 9

Initial Responsibility/Activity(cont.)		Notes
3.5	Determine if Emergency Response Organization mobilization is needed. **IF** based on Shift Manager (Emergency Director) judgment the Emergency Response Organization should be directed to report to backup locations, **THEN** direct the CCR Communicator to use **Envelope F** "Station ERO Mobilization to Backup Locations".	
3.6	**IF** the ERO is not needed **THEN** notify the appropriate ERO of the event: A. **IF** the Unit 2 Emergency Response Organization should be notified only, **THEN** direct the CCR Communicator use **Envelope C** "Unit 2 ERO Event Notification." B. **IF** the Unit 3 Emergency Response Organization should be notified only, **THEN** direct the CCR Communicator use **Envelope E** "Unit 3 ERO Event Notification." C. **IF** the Unit 2 and Unit 3 Emergency Response Organizations should be notified, **THEN** direct the CCR Communicator use both **Envelope C** "Unit 2 ERO Event Notification" and **Envelope E** "Unit 3 ERO Event Notification."	
4.0	**Notification & Mobilization - Alert, Site Area or General Emergency** Once the EOF is activated, all offsite communications shall be performed by the EOF staff. The following steps are for initial classification at the Alert level or higher. State and local authorities shall be notified within 15 minutes of emergency declaration.	
4.1	Ensure CCR Communicator to available. **IF** CCR Communicator is unavailable **THEN** direct a qualified individual to serve as CCR Communicator.	
4.2	Complete (or have completed) and sign a Form EP-1 (IP-EP-115) "NYS Radiological Emergency Data Form, Part I."	
4.3	**IF** personnel assembly is suspended, **THEN** inform the CCR Communicator prior to directing personnel mobilization and instruct him NOT to sound the site assembly alarm.	
4.4	Direct the CCR Communicator to use **Envelope F** "Station ERO Mobilization to Backup Locations".	

Attachment 7

Shift Manager Security Event Checklist

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Initial Responsibility/Activity(cont.)	Notes
5.0 Establish Personnel Accountability	
NOTE IP-1027 "Personnel Accountability and Evacuation" provides guidance for the suspension of personnel accountability under certain conditions.	
CAUTION Security and Operations will take steps as directed by Safeguard Instructions to protect the safety of site personnel. Accountability should be suspended until conditions can be established for safe site access.	
NOTES Accountability rosters are located in the Shift Manager Position Binder. The Shift Manager may call for accountability to be completed any time conditions (hazards in the plant such as fire, toxic gas high radiation levels, earthquake etc.) are present where personnel safety may be in question.	
5.1 **IF** a Site Area Emergency or General Emergency has been declared, and personnel accountability has not already been established, **THEN** initiate site personnel accountability per IP-1027, Personnel Accountability and Evacuation.	
5.2 **IF** any individuals are missing, **THEN** direct available personnel and Security to conduct search and rescue operations to locate the missing individuals as conditions allow.	
6.0 Assess Any Radiological Release The MEANS computer program is available for the performance of dose projections and the formulation of protective action recommendations.	
6.1 **IF** any indications exist of abnormal radiological release as a result of the emergency, **THEN** assess offsite consequences in accordance with IP-EP-310, Dose Assessment.	

Attachment 7

Shift Manager Security Event Checklist

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Initial Responsibility/Activity(cont.)	Notes
6.2 **IF** dose assessment results indicate offsite consequences in excess of the EPA Protective Action Guidelines **THEN** declaration of a General Emergency is required. Evaluate the need to modify the General Emergency PARs as specified in Attachment 10.2 of IP-EP-410, Protective Action Recommendations.	
Continuous Responsibility/Activity (Emergency Director)	**Notes**
NOTES **IF** while performing the Continuous Responsibility/Activity steps as Emergency Director, you are relieved of Emergency Director duties by the EPM or On-Call ED, **THEN** exit this section and enter the Continuous Responsibility/Activity (Shift Manager) section at step 12.0. **7.0 Re-Classify the Emergency if Necessary** 7.1 **IF** plant conditions change or other events occur which may warrant upgrade of the emergency classification, **THEN** re-classify the emergency condition in accordance with IP-1024 "Emergency Classification". 7.2 **IF** a General Emergency is declared, **THEN** protective action recommendations must be made in accordance with IP-EP-410, Protective Action Recommendations. 7.3 Declare the emergency and announce the classification to Control Room personnel. 7.4 Complete (or have completed) and sign a Form EP-1 (IP-EP-115) "NYS Radiological Emergency Data Form, Part I." 7.5 Direct the CCR Communicator to perform notifications using Form EP-5 (IP-EP-115) "Upgrade/Update Notification Alert/SAE/GE Checklist". **8.0 Establish Radiological Controls and Maintain Onsite Personnel Safety** 8.1 Keep the Security Supervisor at the Command Guard House informed of emergency classification, plant status and any radioactive releases, which may effect Security Personnel. 8.2 Once established, maintain personnel accountability.	

Attachment 7

Shift Manager Security Event Checklist

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	Continuous Responsibility/Activity (Emergency Director)	Notes
8.3	IF the potential for abnormal radiological conditions in-plant or onsite exists, THEN: A. Direct the Watch Health Physics Technician to establish radiological controls for the Central Control Room and initiate habitability monitoring for the Central Control Room. B. Evaluate the need to perform a site evacuation per IP-1027, Personnel Accountability and Evacuation. C. Authorize emergency exposure, if necessary, per Form IP-1023-6, Emergency Exposure Authorization.	
8.4	IF an on-site medical emergency occurs, THEN implement IP-1012, On-site Medical Emergency.	
9.0	**Perform Periodic Update Notifications**	
9.1	Periodic update notifications to offsite authorities should be made approximately every 30 minutes or more frequently when plant conditions change.	
9.2	For each update notification, complete (or have completed) and sign a Form EP-1 (IP-EP-115) "NYS Radiological Emergency Data Form, Part I."	
9.3	IF there has been a radiological release above Technical Specifications to the environment, THEN complete (or have completed) and sign a Form EP-2 (IP-EP-115) "NYS Radiological Data Form, Part II.	
9.4	For periodic update notifications during an **Unusual Events**, direct the CCR Communicator to perform update notifications using Form EP-3 (IP-EP-115) "CCR NUE Notification Checklist".	
9.5	For periodic update notifications during an **Alert or higher** classifications, direct the CCR Communicator to perform update notifications using Form EP-5 "Upgrade/Update Notification Alert/SAE/GE Checklist".	

Attachment 7

Shift Manager Security Event Checklist

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Continuous Responsibility/Activity (Emergency Director)	Notes
10.0 Turnover Emergency Director Responsibilities **NOTE:** For Unusual Events, the Shift Manager will normally maintain the Emergency Director responsibilities until the classification is terminated per IP-EP-610, Emergency Termination & Recovery. For Alert and higher classifications, the Emergency Plant Manager will relieve the Shift Manager of Emergency Director duties in the Control Room. However, the On-Call Emergency Director in the EOF may, at his discretion, assume Emergency Director duties directly from the Shift Manager via telephone turnover. 10.1 Provide a status briefing to the Emergency Plant Manager upon his arrival in the Central Control Room. The Emergency Plant Manager will request status on all of the information specified on Form IP-1035-2, Essential Information Checklist. 10.2 Provide copies of all completed NYS radiological Emergency Data forms to the Emergency Plant Manager. 10.3 Resume duties as Shift Manager and proceed to step 12.0 in the Continuous Responsibility/Activity (Shift Manager) section.	
11.0 Terminate the Emergency (Unusual Event Only) 11.1 When conditions warrant termination of the Unusual Event, enter IP-EP-610 Emergency Termination & Recovery and terminate the emergency per section 6.1 "Transition and Recovery Following an Unusual Event." 11.2 Exit this section after termination of the emergency and enter the Closeout Responsibility/Activity section at step 17.0.	

Attachment 7

Shift Manager Security Event Checklist

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Continuous Responsibility/Activity (Shift Manager)	Notes
12.0 Evaluate Emergency Action Levels 12.1 Continue to evaluate current plant condition and events relative to the emergency action levels as specified in IP-1024, Emergency Classification. 12.2 Make recommendations to the Emergency Director and Emergency Plant Manager for upgrading of the emergency classification as appropriate.	
13.0 Maintain Communications with the Emergency Plant Manager and Emergency Director 13.1 Keep the Emergency Plant Manager and Emergency Director informed of current plant status and planned operations. 13.2 Discuss tasks and procedures the Control Room is currently performing and review priorities on a regular basis. 13.3 IMMEDIATELY inform the Emergency Plant Manager and Emergency Director of any plant condition or event that has the potential to change the emergency classification or affect radiological release status.	
14.0 Coordinate In-Plant Team Activities with the Operations Coordinator in the OSC **NOTE:** Once the OSC is activated, the dispatch of personnel into the field for emergency operations is controlled from the OSC. Communications and directions can be provided to the teams from the Control Room, however, the OSC must retain team control for personnel safety and continuous accountability. 14.1 Once the OSC is activated, coordinate the dispatch and control of NPOs assigned to perform in-plant operations with the Operations Coordinator located in the OSC.	Operations Coordinator telephone # in OSC: **734-5556**

Attachment 7

Shift Manager Security Event Checklist

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Continuous Responsibility/Activity (Shift Manager)	Notes
14.2 For operations teams already dispatched and in the field prior to the OSC being activated, coordinate the transfer of team control to the OSC with the Operations Coordinator. 14.3 Direct requests for in-plant operational support IMMEDIATELY to the Operations Coordinator in the OSC to facilitate prompt response to Control Room needs. Keep the Emergency Plant Manager informed of all requests. 14.4 Re-enforce Control Room priorities and needs with the Emergency Plant Manager if in-plant team support is not being provided in a timely and effective manner.	
15.0 Request Technical Support as Needed to Mitigate the Emergency 15.1 Request the TSC Manager to provide forward-looking technical support as needed to assist the Control Room staff in responding to the emergency. 15.2 Provide the Emergency Plant Manager and TSC Manager with periodic briefs on current mitigation strategies and emergency procedures currently being implemented.	
16.0 Exit to Recovery Phase 16.1 Upon notification from the Emergency Director that the emergency has been terminated, exit this section and enter the Closeout Responsibility/Activity section at step 17.0.	

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Shift Manager Security Event Checklist

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Closeout Responsibility/Activity	Notes
17.0 Direct the Control Room staff to return all equipment utilized in the response to proper storage locations	
18.0 Review all documentation the Control Room staff generated during the emergency: 18.1 Ensure all logs, forms and other documentation are complete. 18.2 Ensure all temporary procedures used and/or developed are properly documented for use by the Recovery Organization so that necessary actions can be taken for long-term restoration. 18.3 Collect all computer printouts and strip charts.	
19.0 Provide all logs and records to the Recovery Manager upon termination of the emergency and entry into the Recovery Phase.	

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COPY # 25

IP-1015
Rev. 11

RADIOLOGICAL MONITORING OUTSIDE THE PROTECTED AREA

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Table of Contents

RADIOLOGICAL MONITORING OUTSIDE THE PROTECTED AREA

1.0 PURPOSE

1.1 This procedure prescribes radiological monitoring and related activities performed by the Field (Onsite and Offsite) Monitoring Teams and their interaction within the Emergency Response Organization (ERO) during a radiological emergency at the Indian Point Energy Center.

2.0 DISCUSSION

2.1 The purpose of radiological monitoring is to find and define a plume of radioactive airborne contamination and any surface contamination left in the wake of a plume.

2.2 Monitoring activities include detecting beta radiation, measuring gamma radiation and sampling airborne and surface contamination.

2.3 Monitoring data is reported to the EOF and may be used by the ERO to determine emergency action levels, emergency classifications, radiological exposure controls, protection for on-site personnel and emergency workers, and protective action recommendations for the general public.

2.4 Monitors will be notified of a declared emergency at either Unit 2 or Unit 3 and directed to report at the Emergency Operations Facility (EOF). They are expected at the EOF within the 60 minutes following the declaration.

2.5 At the EOF, Monitors report to the Offsite Radiological Manager (ORM) for assignment to the 1st or 2nd shift teams.

2.6 Sixty some Emergency Sampling Points are identified within the 10-Mile Emergency Planning Zone (EPZ). A 10 Mile EPZ Wind Sector Map, Site Boundary [Perimeter] Map and Street Atlases are available to identify areas, sampling points and other locations to be monitored, and to direct and track the monitoring teams.

2.7 In absence of the ORM, the Shift Manager (SM) or the Emergency Plant Manager (EPM) for Unit 2 or the Control Room (CR) Supervisor or Plant Operations Manager (POM) for Unit 3 may direct the Field Teams from the Central Control Room (CCR).

2.8 Field Teams may be dispatched, directed, and controlled by a Communicator either in the CCR, the EOF or the AEOF.

2.9 The site perimeter is not readily accessible in sectors 2 and 3. A Reuter Stokes site (sector 2, mile 3) at Annsville Circle and a TLD site at Charles Point (sector 3, mile 2) are proxies for the perimeter in these sectors and are monitored by a Field Team. The perimeter in sectors 13 through 1 is readily monitored by Health Physics (HP) Technicians from the OSC directed by the Radiation

Protection Coordinator (RPC) at the request of the ORM.

Perimeter Sector	Position	Team
2 - 3	ORM	Offsite Field Team
4 - 12	ORM	Onsite Field Team
13,14,15,16,1	RPC	HP Technicians

3.0 PRECAUTIONS AND LIMITATIONS

3.1 Continually review and practice the prescribed radiological exposure controls.

3.2 Each Field Team from Unit 2 is composed of two qualified monitors from those whose names are listed in the Emergency Telephone Directory.

3.3 Onsite Teams monitor outside the Protected Area fence within and around the Site Boundary. Offsite Teams monitor outside this boundary (Addendum 8.2).

3.4 Unit 2 Field Teams use Unit 2 procedures. Unit 3 Field Teams use Unit 3 procedures.

3.5 Emergency Sampling Point locations are listed in Addendum 8.5 and in Unit 3 procedure IP-1011 (Reference 6.10).

3.6 Vehicles are checked and decontaminated as prescribed by Unit 2 procedure IP-1009 (Reference 6.9).

3.7 The Dose Assessor (DA)in the EOF assures radiological controls are implemented for samples, equipment, materials, supplies and personnel in the EOF.

3.8 Qualified Nuclear Environmental Monitoring (NEM) Technicians from Unit 2 change TLDs and air sampling station filters at fixed sites within the 10 Mile EPZ, submit the TLDs and filters for analysis, sample soil and water and perform other activities prescribed in the station NEM Procedures (Reference 6.11).

4.0 EQUIPMENT AND MATERIALS

4.1 Equipment and material for the Field Teams are at the EOF in a closet behind the south wall in the east stairwell near the foot of the stairs .

4.2 A key for the closet is inside the key locker on the west wall of the Emergency Control Center (ECC) near the EOF Information Liaison station. Another key is inside the red key box outside, near the entry door to the ECC, on the east wall.

4.3 Equipment and material include three monitoring kits. Each kit has two sealed cases, A and B (Reference 6.3).

4.4 Four vehicles, with mobile radio for the IPEC Radio Service and cellular phone, are available for the Field Teams. The keys are inside the closet in the stairwell. These vehicles are either at the NEM Building, the Buchanan Service Center, the

Unit 3 Waterfront or on-call by Radio or cellular phone.

4.5 Vehicles are equipped with 12 VDC/125 VAC inverters.

4.6 This additional equipment (Reference 6.2) is also available in the EOF storage closet:

4.6.1 Potassium Iodide (KI)

4.6.2 Full-face respirators with iodine filters (sm: w/gray trim, lg: w/orange trim)

4.6.3 "Anti-C" clothing

4.6.4 Batteries, "D" size

4.7 Field Monitoring Team Position Binders with procedures and forms are available in the EOF library.

4.8 The Unit 3 Field Team provides its own equipment, vehicle, a mobile radio for the IPEC Radio Service, and cellular phone.

4.9 Two additional cellular phones for use in the vehicles are available near the ORM position in the EOF.

4.10 Numbers for telephone extensions in the EOF and cellular phones in the vehicles are listed in the Emergency Telephone Directory.

4.11 The IPEC Radio Service has 16 modes of operation. The service includes two radio repeaters with fixed, mobile and portable radio control stations. Seven (4, 5, and 9 -13) modes are available with the mobile radios in the vehicles.

4.11.1 Mode 4, "Onsite": Repeater coverage for the IPEC to 2-3 miles around the Site. Stations: EOF, U2CCR, U3CCR, and vehicles.

4.11.2 Mode 5, "Offsite": Repeater coverage for the IPEC to 5-10 miles around the Site. Stations: AEOF, EOF, U2CCR, U3CCR, portables and vehicles.

4.11.3 Modes 9 -13, "Talk-around": Line-of-sight coverage between fixed, mobile and portable radios. Stations: portables and vehicles.

5.0 INSTRUCTIONS

5.1 Proceed at the EOF. Report to the ORM to be assigned to a team.

5.1.2 **IF** assigned to a team for the current shift, **THEN** assure the names of both monitors on the team are entered on the EOF Personnel Status Board **AND** continue with this procedure.

5.1.3 **IF NOT** assigned to a team for the current shift, **THEN** continue with this procedure. Assist other teams until dismissed by the EOF Manager or the ORM.

5.2 Obtain equipment, materials and supplies.

5.2.1 Obtain a Field Monitoring Team Position Binder.

5.2.2 Obtain keys for a vehicle

5.2.3 Obtain a vehicle with a radio and cell phone. Check the fluid levels.

5.2.4 Obtain the following equipment and materials from the closet:

A. Potassium Iodide (KI) package, 14 tablets with directions

B. Respirator with iodine filters (m in case B; sm & lg on closet shelf)

C. "Anti-C" clothing

D. Monitoring Kit (two sealed cases, A and B, per kit)

5.2.5 Use "*Form IP-1023-4, Emergency Response Organization Log Sheet*" to record your activities.

5.2.6 Record the ***"ERO Position:"*** [and the Team Name e.g.; "Mobile One"] "***Date:***" and the team member [s] ***"Name:"***[s] on Form IP-1023-4.

NOTE:

A Field Team will not necessarily use all the equipment and materials in the Monitoring Kits. Some equipment is exclusively for the use of qualified NEM Technicians.

5.2.7 Use "*Form EP-AD-05-3, Survey Team Inventory Checklist*".

5.2.8 Check the seal on each case in the kit. **IF** the seal is broken, **THEN** inventory the equipment in that case. Record the ***"Kit #"*** and results on Form EP-AD-05-3A and/or 3B.

5.2.9 Open Case A **AND** check the calibration of dosimeters, ion chamber, count-rate meter and air sampler is not over due. Record results on Form EP-AD-05-3A.

5.2.10 Check operation of the ion chamber, the count rate meter, and the air sampler. Record results on Form EP-AD-05-3A.

A. RO-2, Ion Chamber (Addendum 8.1)

B. E-140N, Count Rate Meter w/HP-210 probe (Addendum 8.1)

C. H809V-1 (AC), Air Sampler (Addendum 8.1)

5.2.11 Check the dosimeter charger. Set dosimeters to "zero".

5.2.12 Wear the TLD badge and dosimeters (0-500 mR and 0-5 R) on the chest between the waist and neck. Record the current "***Time***", TLD serial number and dosimeter readings for each monitor on Form IP-1023-4.

5.2.13 Check the flashlight. Record results on Form EP-AD-05-3A.

NOTE:

Without an ORM in the EOF, Field Teams may be directed through the Communicator in the CCR.

5.2.14 Check operation of the mobile radio and cellular phone in the vehicle with the Communicator who is dispatching and controlling the team. Record results on Form IP-1023-4.

NOTE:

IF radio communication with the EOF or AEOF is not established, **THEN** try 1) the cellular phone, 2) another location where radio or telephone communication is acceptable, 3) relaying messages through other stations in either "**5...Offsite**", "**4...Onsite**" or "**9-13...Talk-around**" modes or 4) a pay phone. **IF** all fail, **THEN** return to EOF or AEOF.

A. IPEC Radio Service (Addendum 8.1)

B. Cellular Phone (Addendum 8.1)

5.2.15 Replace or exchange missing, out of calibration, and inoperative equipment, materials and supplies with what is available at the EOF.

5.2.16 Complete "***Comments:***", "***Inventory Performed By:***" and the "***Date:***" on Forms EP-AD-05-3A and/or 3B.

5.2.17 **IF** there has been a release of radioactive material to the atmosphere, **THEN** as directed by the ORM or the ED, check the vehicle for contamination **BEFORE** leaving the Site. Use IP-1009 (Reference 6.9)

5.2.18 Place the equipment, materials and supplies in the vehicle. Place the E-140N, the RO-2 and surgeon rubber gloves in the front seat.

5.3 Receive briefing on emergency conditions.

5.3.1 Report missing, out of calibration, inoperative and replaced equipment, materials and supplies to the ORM.

5.3.2 Review **AND** note conditions, monitoring locations, routes, and requirements with ORM and the Communicator.

A. Plant conditions

(1) Emergency classification

(2) Plant status

B. Release conditions

(1) Release start

(2) Release stop

(3) Noble gas / Iodine ratio

(4) Expected dose rate, surface and airborne contamination.

C. Measured and forecast meteorological conditions

(1) Wind direction

(2) Wind speed

(3) Pasquill stability class

D. Plume location

(1) Width (sectors)

(2) Plume front (miles from center of wind sector)

(3) Plume

E. Areas, routes and locations, including Emergency Sampling Points to monitor

F. Monitoring requirements:

(1) Measure radiation fields en route.

(2) Measure radiation fields on location

(3) Sample for airborne contamination

(4) Sample for surface contamination

(5) Activities for qualified NEM Technicians

G. Review radiological exposure controls

(1) Minimize time (Goal: <20 min.) spent within elevated radiation fields especially those near or within the plume and/or its wake.

(2) ALARA locations

(3) **DO NOT** enter a radiation field within a plume that is greater than **100 mR/hr** except as directed by the ORM.

(4) **DO NOT** enter a radiation field that is greater than **1.0 R/hr** except as directed by the ORM.

NOTE:

The ED may authorize an initial emergency exposure of 1 Rem TEDE and subsequent exposures in 1 Rem increments to 5 Rem TEDE.

(5) **DO NOT** exceed **1 R** (i.e., dosimeter reading) except when directed by the ORM.

NOTE:

The Emergency Director using "*Form IP-1023-6, Emergency Exposure Authorization*" will authorize exposure exceeding 5 Rem TEDE.

(6) **DO NOT** exceed **5 Rem TEDE** except when authorized by the ED.

(7) **DO NOT** wear "anti-C" clothing except when directed by the ORM.

NOTE:

Respirator protection will be considered following a release from a steam generator with a tube rupture or other releases with a noble gas to iodine ratio of less than 100/1.

(8) **DO NOT** wear respirators except when directed by the ORM.

NOTE:

Administration of KI will be considered at a projected thyroid dose of 25 Rem CDE or more to the thyroid.

(9) **DO NOT** take KI except when by the ORM.

5.4 Proceed to the next location:

5.4.1 Use "*Form IP-1023-4, Emergency Response Organization Log Sheet*".

5.4.2 Use the 10-Mile Emergency Planning Zone (EPZ) Wind Sector Map, Site Boundary [Perimeter] Map, and Street Atlases.

5.4.3 Use the mobile radio or cellular phone and vehicle.

5.4.4 Maintain radio or telephone communications with the Communicator en route between locations.

5.4.5 Assure the Communicator has the position (e.g., "Field Team"), the name of the team (e.g., "Mobile One"), the names and the TLD serial numbers of the team members.

5.4.6 Determine destination and intended route.

5.4.7 Track your progress along the route using the maps and atlases.

5.4.8 Keep pertinent current information on Form IP-1023-4.

A. Dosimeter readings

B. Plant, radiological, and meteorological conditions

C. Monitoring requirements

D. Radiological, exposure controls

E. ALARA locations

F. Landmarks on the route shown on the maps and atlases; e.g.,TLD sites, Reuter Stokes sites, schools, and intersections

5.5 Monitor radiation fields at landmarks en route to and on arrival at the location.

5.5.1 Use "*Form IP-1015-1, Monitoring Team Radiation Field Survey Data*".

5.5.2 Record the "***Team Name:***", "***Team Member Names***", and "***Date:***"; the instrument "***Model #***'s and "***Serial #***'s, and the data on Form IP-1015-1.

5.5.3 Begin with the E-140N, Count Rate Meter*:*

NOTE:

Rate Meter readings will increase as a plume of radioactive material is approached.

A. Place the speaker switch to "**ON**".

B. Put the function switch to "**X1**".

C. Lower the nearest window of the vehicle cab. Keep the Meter in the cab near the window.

D. Read **AND** record each doubling of the reading (CPM) and the nearest landmark including the reading on arrival at the location.

E. Report each doubling and landmark to the Communicator.

F. **WHEN** the Rate Meter reads 1000 CPM at "**X10**" **AND** the Ion Chamber reads more than 0.1 mR/hr, **THEN** use the RO-2, Ion Chamber. [1000 CPM = 0.1 mR/hr (OW)]

CAUTION:

Review radiological exposure controls, prepare equipment and data forms, determine the route to the nearest ALARA location **AND** prepare to implement personal protective measures as directed by the ORM before approaching and entering a plume.

5.5.4 Continue with the RO-2, Ion Chamber.

NOTES:

- As a plume of airborne contamination is approached, both the opened window (OW) and closed window (CW) readings increase, reach a peak at the centerline across the plume and a maximum at the source along the plume.
- Inside the plume, OW readings are greater than CW readings
- Outside the plume, OW readings equal CW readings.

A. Lower the nearest window of the vehicle cab. Place the Ion Chamber in the cab near the window.

B. Set the function switch to "**5000 mR/hr**"; open the shield; turn the function switch to the lowest range without exceeding full scale on the meter.

C. Read **AND** record each doubling of the "**OW mR/hr**"(i.e., beta and gamma) and the nearest landmark.

D. Close the shield, read **AND** record "**CW mR/hr**"(i.e., gamma).

E. Subtract the CW from the OW readings, multiply the difference by 2, **AND** record as mrad/hr (i.e., beta).

F. Continue to adjust the function switch to the lowest scale for an on-scale reading.

G. **WHEN** the Ion Chamber reads less than 0.1 mR/hr, use the E-140N, Count Rate Meter.

5.5.5 Report the data on Form IP-1015-1 to the Communicator.

5.5.6 Arrive on location. Record your arrival on Form IP-1023-4. Report your arrival to the Communicator.

5.6 Monitor radiation fields on location.

5.6.1 On arrival at the location, read AND record readings on Form IP-1015-1 and as directed by the ORM.

5.6.2 Use the E-140N Rate Meter. If it reads full scale at "**X1**" **AND** the RO-2, Ion Chamber reads more than 0.1 mR/hr, **THEN** use the Ion Chamber.

5.6.3 Use "*Form IP-1015-2, Monitoring Team Sample Data*".

5.6.4 Use the RO-2, Ion Chamber to survey at the location.

5.6.5 Record the "***Team Name:***", "***Team Member Names:***", and "***Date:***" on Form IP-1015-2.

5.6.6 Record the "***Location:***" including the details, on Form IP-1015-2.

5.6.7 Record the Ion Chamber "***Model #:***", and "***Serial #:***" and the "***Time:***" on Form IP-1015-2.

5.6.8 Leave the vehicle and proceed to an area that is open overhead..

5.6.9 Measure radiation fields at 3 feet and 3 inches above the ground. Record the data on Form IP-1015-2.

A. Ion Chamber @ 3 feet:

NOTES:

- As a plume of airborne contamination is approached, both the opened window (OW) and closed window (CW) readings increase, reach a peak at the centerline across the plume and a maximum at the source along the plume.
- Inside the plume, OW readings are greater than CW readings
- Outside the plume, OW readings equal CW readings.

(1) Read **AND** record "***(OW) (mR/hr)***".

(2) Read **AND** record "***(CW) (mR/hr)***".

B. Ion Chamber @ 3 inches:

NOTES:

- Outside a plume, the opened window (OW) and the closed window (CW) readings both increase as surface contamination (the plume footprint) is approached. The OW readings will be greater than CW readings.
- Inside the plume, as surface contamination (the plume footprint) is approached only the OW reading increases, the CW reading does not. The OW readings will be greater than CW readings.

(1) Read **AND** record "***(OW) (mR/hr)***".

(2) Read **AND** record "***(CW) (mR/hr)***".

5.6.10 For both the 3" and 3' readings, subtract the CW mR/hr from the OW mR/hr, **AND** multiply the difference by 2. Record the "***(OW-CW) X 2 (mrad/hr)***" on Form IP-1015-2.

5.6.11 Return the Ion Chamber to the vehicle.

5.6.12 Report the data on Form IP-1015-2 to the Communicator.

5.7 Sample for airborne contamination:

5.7.1 Use "*Form IP-1015-2, Monitoring Team Sample Data*".

5.7.2 Use the following equipment:

A. H-809V-1 (AC) Portable Air Sampler with Open-Face Combination Filter and Cartridge Holder

NOTE:

IF the beta fields are determined to be **GREATER THAN** 50 mrad/hr **OR** the radioiodine activity is believed to be **GREATER THAN** 1.0 E-08 µCi/cc, use a silver zeolite cartridge.

B. Silver zeolite radioiodine sampler cartridge **OR**

C. Charcoal radioiodine cartridge

D. Glass fiber particulate filter

E. Clock, watch or timer

5.7.3 Place a radioiodine cartridge and a particulate filter into the holder.

A. Disassemble the holder into the: 1) blue main body, 2) gold cartridge retainer, and 3) gold filter retainer nut.

B. Place an iodine cartridge into the holder body

NOTE:

Place the radioiodine cartridge with the arrow pointing in towards the air sampler or the label to read top to bottom with the air inlet at top and the sampler connection at the bottom.

C. Screw the cartridge retainer into the body over the cartridge.

D. Place a particulate filter in the cartridge retainer over the screen at the center.

NOTE:

A particulate filter has a smooth, dimpled surface and a rough fluffy surface. Place the fluffy surface to face away from the sampler.

E. Screw the retainer nut into the cartridge retainer over the filter.

5.7.4 Screw the holder into the sampler.

5.7.5 Record **OR** check the following on Form IP-1015-2.

A. Air Sampler "***Model #:***"

B. Air Sampler "***Serial #:***"

C. "***Particulate Filter***"

D. "***Iodine*** [charcoal cartridge] ***(C)***" **OR**

E. "***Iodine*** [silver zeolite cartridge] ***(AgZ)***"

5.7.6 Sample 10 cubic feet of air **AND** record the data on Form IP-1015-2.

CAUTION:

Run the vehicle engine at idle speed before turning the inverter on. Turn the inverter off before turning the engine off.

A. Put sampler power switch **"OFF"**.

B. Connect the sampler to the inverter. Turn the inverter **"ON"**.

C. Put sampler power switch to **"VARIABLE".**

D. Read **AND** record ***"Sampling Start Time (HH:MM):"***

E. Use **"-FLOW-ADJUST-"**, Set flow at **"1.5-2.0 CFM"**

F. Read **AND** record ***"Sampling Start Flow (CFM):".***

G. Estimate the "*Duration (MM):*". Divide 10 CF by "*Sample Start Flow (CFM):*"; e.g., 10 CF / 1.7 CFM = 6 min.

H. Run the sampler for the estimated ***"Duration (MM):".***

I. Read **AND** record ***"Sampling Stop Time (HH:MM):"***

J. Read **AND** record ***"Sampling Stop Flow (CFM):"***

K. Turn the sampler **"OFF"**.

L. Turn the inverter **"OFF"**. Disconnect the sampler from the inverter.

5.7.8 Calculate AND record the actual "Duration (MM):". Subtract "Sample Start Time (HH:MM):" from "Sample Stop Time (HH:MM):".

5.7.9 Calculate **AND** record the ***"Average Flow (CFM):"***. Add ***"Sampling Start Flow (CFM):"*** to ***"Sampling Stop Flow (CFM):"***, **AND** divide by *2.*

5.7.10 Calculate **AND** record ***"Sample Volume (CF):"***. Multiply ***"Average Flow (CFM):"*** by the actual ***"Duration (MM):"***.

5.8 Sample for surface contamination:

5.8.1 Use "*Form IP-1039-1, Surface Contamination Check*".

5.8.2 Use the following equipment:

A. Surgeon's rubber gloves

B. Paper smear or gauze wipes

C. Small paper envelope or plastic bag

D. Pen or pencil AND magic marker or grease pencil

5.8.3 Enter the **"Date"**, the name of the **"Technician"** or Monitor and **"LOCATION"** on Form IP-1039-1.

NOTE:

Find a surface to sample for contamination. Avoid unfinished wooden and hard surfaces with sharp edges. Use paper smears for smoother and gauze wipes for rougher surfaces.

5.8.4 Find **AND** smear a surface. Smear a 100 cm^2 area. Put two fingers on a smear or wipe **AND** hold it with your thumb. Reach out **AND** drag it back across the surface in the pattern of an "S".

5.8.5 Record the "***Time***" and the "***SURFACE SMEARED***" on Form IP-1039-1.

5.8.6 Annotate a small paper envelope for a smear or a small plastic bag for a gauze wipe with the following information from Form IP-1039-1:

A. "*Date*"

B. "***LOCATION***"

C. "***Time***"

D. "***SURFACE SMEARED***"

5.8.7 Place the smear or wipe in the paper envelope or plastic bag.

5.9 Proceed to the ALARA area.

5.9.1 Return the Air Sampler with the holder, the smears and wipes to the vehicle.

5.9.2 Proceed to the ALARA location to purge and count the samples.

NOTE:

Unless otherwise directed, purge and count the samples in background that is less than 300 CPM. **IF** samples must be counted with background higher that 300 CPM, **THEN** the gross count rate for the sample must be greater than twice background. To detect minimum iodine concentration of 1.0 E-08 uCi/cc in an air sample of 10 cubic feet using an E-140N the background must be less than 4000 CPM.

5.10 Prepare to measure the airborne contamination sample.

5.10.1 Use this equipment:

A. Sampler and holder

B. Surgeon's rubber gloves

C. Tweezers

D. Planchet

E. Orange plastic bag

NOTE:

Purge noble gases from the sample. With the holder on the sampler and the particulate filter and iodine cartridges in the holder, run the sampler for 30 seconds.

5.10.2 Unscrew the holder from the sampler.

5.10.3 Disassemble the holder to the 1) blue main body, 2) gold cartridge retainer, and 3) gold filter retainer nut.

A. Unscrew the cartridge retainer from the body.

B. Unscrew the retainer nut from retainer.

C. Remove the particulate filter with the tweezers and place it fluffy side up into a planchet.

D. Retain the iodine cartridge in the body of the holder.

5.11 Measure the airborne contamination sample.

5.11.1 Use this equipment:

A. Count Rate Meter, Eberline Model E-140N with HP-210 pancake probe and SH-4 (or SH-4A) fixture.

B. Planchet with particulate filter

C. Holder body with iodine cartridge

D. Small paper envelope

E. Small plastic bag

F. Pen or pencil and grease pencil or magic marker

5.11.2 Use the same Form IP-1015-2, with the data recorded in preparing the airborne contamination sample. Record the following data:

A. "***Count Rate Meter Model #: [E-140N]***"

B. "***Count Rate Meter Serial #:***"

C. ***"Time"*** when the sample is counted

5.11.3 Annotate a small envelope for the filter and a small plastic bag for the cartridge with the following information from Form IP-1015-2:

A. "***Date:***"

B. "***Location:***"

*C. "**Sampling Start Time (HH:MM):**"*

*D. "**Sample Volume (CF):**"*

5.11.4 Determine the activity (CPM) on the particulate filter:

A. Set up the SH-4 or SH-4A counting fixture.

(1) Pull out the metal tray.

NOTE:

The metal tray and aluminum cup for the SH-4 are one piece.

(2) Place the aluminum cup in the tray. Align the bottom of the cup with the hole in the tray.

(3) Place the spacer ring into the aluminum cup.

(4) Push the tray in.

B. Measure background for the filter, "***Part Filter, Bkgd (CPM):***".

(1) Place the probe in the fixture over the ring and cup.

(2) Adjust the function switch to the lowest multiplier without exceeding full scale on the meter.

(3) Read **AND** record the reading as ***"Part Filter, Bkgd (CPM):"***.

C. Measure the particulate filter, ***"Part Filter, Gross (CPM):"***.

(1) Pull the metal tray out.

(2) Place the planchet with the particulate filter into the cup on the ring.

(3) Push the tray in.

(4) Place the probe in the fixture over the filter.

(5) Adjust the function switch to the lowest multiplier without exceeding full scale on the meter.

(6) Read **AND** record ***"Part Filter, Gross (CPM):"***.

D. Calculate **AND** record ***"Part Filter, Net (CPM):"***. Subtract ***"Part Filter, Bkgd (CPM):"*** from ***"Part Filter, Gross (CPM):"***.

5.11.5 Determine the activity (CPM) on the iodine cartridge.

A. Set up the counting fixture for the iodine silver zeolite or charcoal cartridge.

(1) Pull out the metal tray and aluminum cup.

(2) Remove the planchet and filter **AND** place both in the small envelope prepared earlier.

(3) Remove the ring, cup, and tray from the fixture.

B. Measure ***"Iodine*** (*C* or *Ag/Z* as appropriate), ***Bkgd (CPM):"***.

(1) Place the probe in the fixture.

(2) Adjust the function switch to the lowest multiplier without exceeding full scale on the meter.

(3) Read **AND** record ***"Iodine*** (C *or* Ag/Z *as appropriate), Bkgd (CPM):"***.

C. Measure ***"Iodine*** (*C* or *Ag/Z* as appropriate), ***Gross (CPM):"***.

(1) Remove the probe from the fixture.

(2) Invert the holder body **AND** remove the iodine cartridge.

(3) Place the charcoal or the silver zeolite cartridge (arrow down) through the hole in the fixture.

(4) Place the probe in the fixture over the cartridge.

(5) Adjust the function switch to the lowest multiplier without exceeding full scale on the meter.

(6) Read **AND** record *"Iodine (C or Ag/Z as appropriate)* ***Gross (CPM):***".

D. Calculate **AND** record "***Iodine*** (*C* or *Ag/Z* as appropriate) ***Net (CPM):***". Subtract "***Iodine*** (*C* or *Ag/Z* as appropriate) ***Bkgd (CPM):***" from "***Iodine*** (*C* or *Ag/Z* as appropriate) ***Gross (CPM):***"

NOTE:

An *"Iodine (C or Ag/Z as appropriate) Gross (CPM):"* equal to 25,000 within the 24 hours following a reactor shutdown is equivalent to an exposure rate to the thyroid of 25 Rem/hr CDE.

5.11.6 Remove the probe from the fixture.

5.11.7 Remove the cartridge from the fixture and place it in the small plastic bag that was prepared earlier.

5.11.8 Reassemble the fixture, tray, cup, and ring.

5.11.9 Remove the rubber gloves and place them in the orange plastic bag.

5.11.10 Repeat steps from 5.10 for additional sample filters and cartridges.

5.11.11 Report the data on Form IP-1015-2 to the Communicator.

5.11.12 Return equipment and samples to the vehicle.

5.12 Measure the surface contamination samples.

5.12.1 Use the following:

A. E-140N, Count Rate Meter, with HP-210 pancake probe

B. Surgeon's rubber gloves

C. Tweezers

D. Planchets

E. Orange plastic bag

F. Smear or wipe in a small paper envelope or plastic bag.

G. Form IP-1039-1 used to record surface contamination sampling data.

5.12.2 Determine the activity (CPM) on the smear or wipe.

A. Measure background for the smear or wipe, "***BKGD CPM***'.

(1) Place the probe about one quarter inch above an empty planchet.

(2) Adjust the function switch to the lowest multiplier without exceeding full scale on the meter.

(3) Read **AND** record the ***"BKGD CPM"***.

B. Measure the smear or wipe, "***SMEAR + BKGD CPM***'.

(1) Remove, using tweezers, a smear or wipe from the envelope or plastic bag. Place the smear or wipe on the planchet.

(2) Place the probe about one quarter to one half inch above the smear or wipe.

(3) Adjust the function switch to the lowest multiplier without exceeding full scale on the meter.

(4) Read **AND** record "***SMEAR + BKGD CPM***'.

C. Calculate **AND** record ***"SMEAR CPM***'. Subtract "***BKGD CPM***' from ***"SMEAR + BKGD CPM***'.

D. Return, using tweezers, the smear or wipe with the planchet to its small paper envelope or plastic bag

5.12.3 Remove the rubber gloves and place them in the orange plastic bag.

5.12.4 Repeat steps from 5.12 for additional smears or wipes.

5.12.5 Report the data on Form IP-1039-1 to the Communicator.

5.13 Prepare for reassignment.

5.13.1 Return the sampler and holder, the count rate meter and probe, the counting fixture and tweezers to the kit.

5.13.2 Return packaged samples to the vehicle.

5.13.3 **IF** at an ALARA location, **THEN** remain there until directed otherwise by the ORM. Continue monitoring for radiation fields from the vehicle. Periodically assure both the team and the Communicator has current information. Note the current information on Form IP-1023-4; **IF NOT**, continue below.

5.13.4 **IF** directed to another location **THEN** return to 5.4 and continue; **IF NOT**, continue below.

5.13.5 **IF** directed to deactivate; **THEN** continue below.

5.13.6 Return to the EOF parking area or other location as directed by the ORM.

5.13.7 Check **AND** decontaminate the vehicle (Reference 6.9) as directed by the ORM.

5.14 Return samples for additional analysis.

CAUTION:

Ask the DA to determine which, if any, samples are radioactive and implement radiological controls for those samples prior to removing them from the vehicle.

5.14.1 Collect together the samples (i.e., filters, cartridges, smears, and wipes) with the corresponding data forms.

5.14.2 Assure each sample is packaged, labeled and traceable to a data form.

NOTE:

Samples may be analyzed at the EOF, onsite by Chemistry or other radiological assessment facilities offsite. Non-radioactive samples may be shipped offsite using NEM procedures. Radioactive samples may be shipped offsite using Radiological Waste procedures.

5.14.3 Request a disposition for the samples from the ORM.

5.14.4 Turn samples over to the DA or representatives from the Chemistry, NEM or Radiological Waste organizations as directed by the ORM.

5.15 Return equipment, materials and supplies.

5.15.1 Use "*Form EP-AD-05-3, Survey Team Inventory Checklist*".

5.15.2 Read **AND** record dosimeter exposures on Form IP-1023-4.

5.15.3 Request assistance from the DA to check, decontaminate **OR** package contaminated equipment.

5.15.4 Check that the listed equipment is returned to the kit. Report missing equipment to the ORM **AND** replace missing equipment as directed. Return the kit to the closet.

5.15.5 Check that the equipment removed earlier is returned to the closet. Report missing equipment **AND** replace as directed by the ORM.

5.15.6 Deliver TLDs and completed FORMS to the ORM.

6.0 REFERENCES

6.1 Emergency Telephone Directory

6.2 Form EP-AD-05-1, EOF Inventory Check List

6.3 Form EP-AD-05-3, Survey Team Inventory Check List

6.4 Form IP-1015-1, Monitoring Team Radiological Data

6.5 Form IP-1015-2, Field Survey Form

6.6 Form IP-1023-4, Emergency Response Organization Log Sheet

6.7 Form IP-1023-6, Emergency Exposure Authorization

6.8 Form IP-1039-1, Surface Contamination Check

6.9 IP-1009, Radiological Check and Decontamination of Vehicles

6.10 IP-1011, [Unit 3] Offsite Monitoring / Site Perimeter Surveys

6.11 Preparation NEM-5.101, Nuclear Environmental Monitoring Sample and Analysis Schedule

6.12 RW-SQ-4.107, Radioactive Shipment

7.0 ATTACHMENTS:

None

8.0 ADDENDA:

8.1 Equipment Operational Checks

8.2 Site Map

8.3 Monitoring Team Radiation Field Survey Data, Form IP-1015-1

8.4 Monitoring Team Sample Data, Form IP-1015-2

8.5 Offsite Emergency Sampling Locations

ADDENDUM 8.1
Equipment Operational Checks
Sheet 1 of 3

RO-2 Ion Chamber

- Use: (1) RO-2, (2) 5 uCi Cs-137 source, and (3) Form EP-AD-05-3A.
- Turn the function switch to "*BATT 1*" then to "*BATT 2*", check the meter reads "*BATT OK*" for both positions.
- Turn the function switch to "*ZERO*"; use the "*ZERO*" knob and adjust the meter to read "zero".
- Turn the function switch to "*5*", open the shield, place unshielded chamber on the 5 uCi Cs-137 source; check the meter reads upscale greater than 1.0 mR/hr.
- Turn the function switch to "OFF" and close the shield.
- Record results on Form EP-AD-05-3A.

E-140N Count Rate Meter

- Use: (1) E-140N, (2) HP-210 probe, (3) coaxial cable, (4) 1 uCi Ba133 source, and (5) Form EP-AD-05-3A.
- Connect the probe with the coaxial cable; to the meter at the terminal marked "*PROBE*".
- Turn the function switch to "*BATT*"; check the meter reads "*BATT OK*".
- Turn the function switch at "*X100*", place probe in contact with 1 uCi Ba133 source, turn function switch to smaller multipliers until the meter reads upscale at more than 1000 CPM.
- Turn the function switch to "OFF".
- Record results on Form EP-AD-05-3A.

ADDENDUM 8.1
Equipment Operational Checks
Sheet 2 of 3

H-809V-1 (AC) Air Sampler

- ☐ Use: (1) H809V-1(AC), (2) vehicle battery, and (3) Form EP-AD-05-3.

CAUTION:

Run the vehicle engine at idle speed before turning the inverter on. Turn the inverter off before turning the engine off.

- ☐ Place sampler power switch "*OFF*"; remove the filter holder.
- ☐ Connect the sampler's power cord to the inverter receptacle.
- ☐ Turn the inverter "*ON*".
- ☐ Put power switch "*VARIABLE*".
- ☐ Check flow to be greater than "*2.5 CFM*".
- ☐ Place the power switch "*OFF*".
- ☐ Turn the inverter "*OFF*".
- ☐ Disconnect the sampler from the inverter; replace the filter holder.
- ☐ Record results on Form EP-AD-05-3.

ADDENDUM 8.1
Equipment Operational Checks
Sheet 3 of 3

IPEC Radio Service

- ☐ Use: (1) vehicle with mobile radio, (2) vehicle keys, (3) radio w/ press-to-talk (PTT) microphone, and (4) Form IP-1023-4.
- ☐ Turn vehicle ignition switch to "Run" or "Accessories".
- ☐ Push "On/Off" switch to "On".
- ☐ Turn the "Mode Selector" switch to display "*5...Offsite*".
- ☐ Press the microphone "PTT" switch

NOTE:

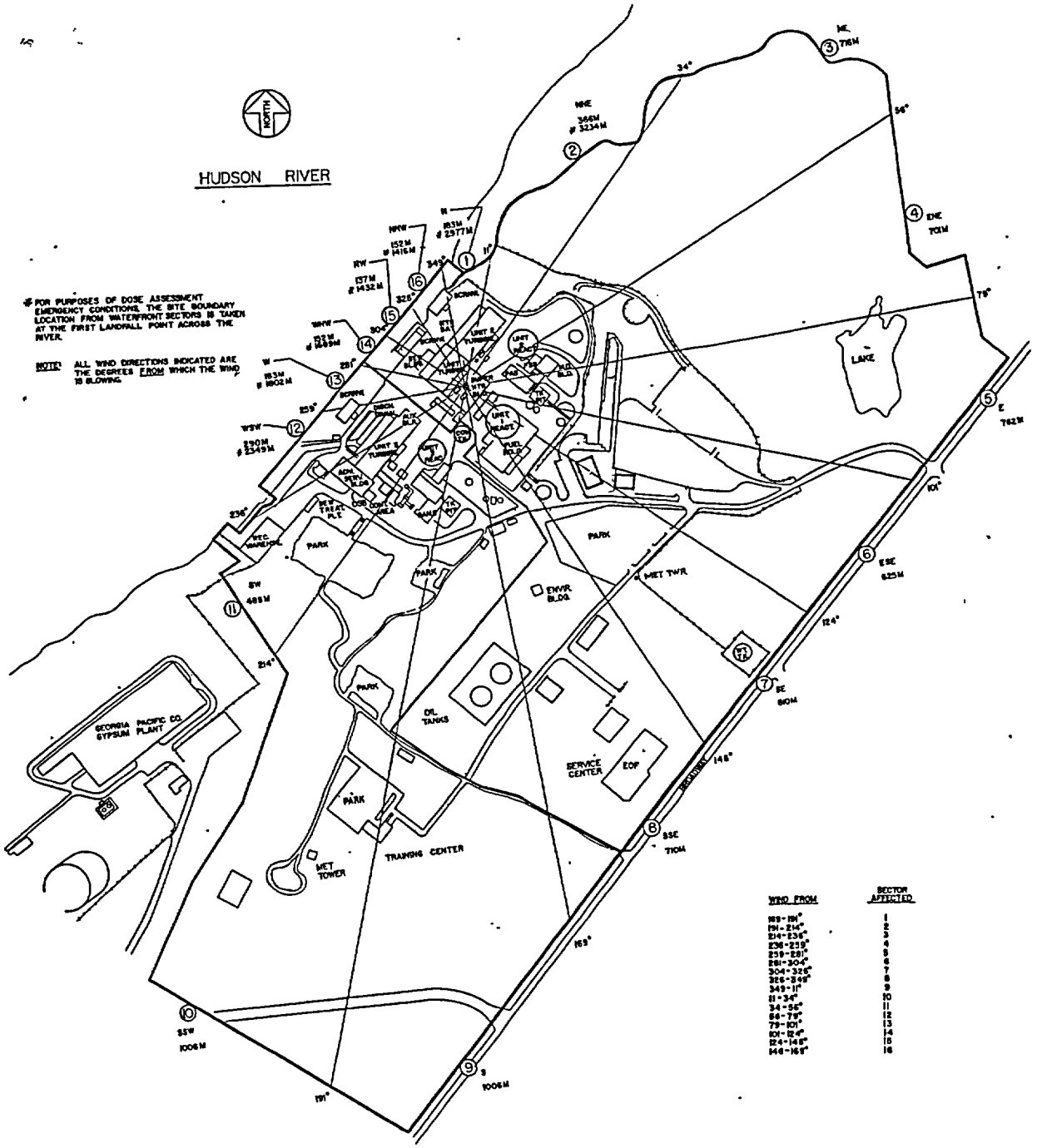
Radio call signs are transmitted automatically; transmitting by voice is no longer required. Use the station name; e.g., "Mobile One" for identification.

- ☐ Request radio check; e.g., "Indian Point EOF, this is Indian Point Mobile One, request radio check over".
- ☐ Turn the "Mode Selector" switch to display "*4...Onsite*".
- ☐ Press the microphone "PTT" switch.
- ☐ Request radio check.
- ☐ Record results on Form IP-1023-4.

Cellular Phone

- ☐ Use: (1) vehicle with cellular phone, (2) cellular phone, and (4) Form IP-1023-4.
- ☐ Put phone power on.
- ☐ Display "SERVICE AVAILABLE".
- ☐ Use the number in Emergency Telephone Directory
- ☐ Call the Communicator.
- ☐ Record results on Form IP-1023-4.

ADDENDUM 8.2
Site Map
Sheet 1 of 1



ADDENDUM 8.3
MONITORING TEAM RADIATION FIELD SURVEY DATA (Form IP-1015-1)
Sheet 1 of 1

MONITORING TEAM RADIATION FIELD SURVEY DATA

Team Name:_____ Date:_____

Team Member Names:_____

Count Rate Meter, Model#. E-140N Serial#:_____ Ion Chamber, Model#: R-02 Serial#:_____

SURVEY LOCATION (Sector/Mile, Street/Intersection/mi. to Int.)	TIME (HH:MM) [1]	(CPM) [2][4]	OW (mR/hr) [3]	CW (mR/hr) [3]	(OW-CW)X2 (mrad/hr) [3]	REMARKS

NOTES. [1] 24-hr clock
[2] E-140N, Count Rate Meter data
[3] RO-2, Ion Chamber data.
[4] 1000 CPM = 0.1mR/hr (OW)

Form IP-1015-1, Rev.11

ADDENDUM 8.4
MONITORING TEAM SAMPLE DATA (Form IP-1015-2)
Sheet 1 of 1

MONITORING TEAM SAMPLE DATA

Team Name: _____ Date: _____

Team Member Names: _____

Sample Location:

Sector: _____ Mile: _____

County: _____ Atlas Key Map #: _____ Grid. _____

Street: _____ Nearest Intersect: _____ Mi. to Intersect.: _____

Radiation Field Measurements:

Ion Chamber, Model #: RO-2 Serial #: _____ Time: _____

@ 3 in. above ground: **@ 3 ft. above ground:**

Opened Window (OW) (mR/hr). _____ Opened Window (OW) (mR/hr): _____

Closed Window (CW) (mR/hr): _____ Closed Window (CW) (mR/hr): _____

(OW-CW) X 2 (mrad/hr): _____

Air Sampling:

Air Sampler, Model #: H-809V-1 Serial #: _____

Particulate Filter: _____ Iodine (C): _____ Iodine (AgZ): _____

Sampling Start: Time (HH:MM): _____ Flow (CFM): _____

Sampling Stop: Time (HH.MM): _____ Flow (CFM): _____

Duration (MM) _____

Average Flow (CFM): _____

Sample Volume (CF): _____

Air Sample Counting:

Count Rate Meter, Model #: E-140N Serial #: _____ Time: _____

Part Filter, Bkgd (CPM): _____ Gross (CPM): _____ Net (CPM): _____

Iodine (C), Bkgd (CPM): _____ Gross (CPM): _____ Net (CPM): _____

Iodine (AgZ), Bkgd (CPM): _____ Gross (CPM): _____ Net (CPM): _____

Form IP-1015-2, Rev.11

ADDENDUM 8.5

Offsite Emergency Sampling Locations

Sheet 1 of 7

Sector-Mile	Map Number (Grid)	Location	Directions (off major roads from site)
1-2	W-1 (B-5)	Roa Hook Rd.,@ 0.1-0.2 mi. fm Bear Mt. Bridge Rd. (Radiation Monitor Sta. #1)	Rte. 9 North to Annsville Circle to Rtes. 6 & 202, Bear Mt. Bridge Rd. West. **Left** to Roa Hook Rd.
1-7	P-3 (B-9)	Route 9D North @ 3.3-3.4 mi. north of Bear Mt. Bridge. [l] (St. Francis Friary)	(See 1-2), Bear Mt. Bridge Rd. West to Bear Mt. Bridge. **Right** to Rte. 9D North.
1-10	P-2 (C-7)	Route 9D North @ 0.2-0.3 mi. north of Bridge over Indian Brook. (Derham X Rd.)	Rte. 9 North. **Left** to Rte. 403. **Right** to Rte. 9D North.
2-2	W-1 (C-5)	Old Pemart Ave. along R.R. to dead-end @ fence. (TLD Site).	Rte. 9 North to Rte's 202& 6, Main St.. **Right** to Main St. Exit. **Right** to Main St. toward river to bottom of hill. **Right** to Old Pemart Ave.
2-3	W-1 (C-4)	Highland Ave. @ [r] Sprout Brook Rd. (Truck Sales Room)	Rte. 9 North to Bear Mt. Pkwy. Ext. North, cross overpass, **Right** to Highland Ave. Exit. **Right** to Highland Ave.
2-6	W-1 (D-2) also P-3 (D-10)	Rte. 13 (Sprout Brook Rd.) @ [l] Old Albany Post Rd. / [r] Canopus Hollow Rd.	Rte. 9 North, to Bear Mt. Pkwy Ext. North, **Right** to Division St. Exit. **Left** to Division St., to Oregon Rd. North. **Left** to Gallows Hill Rd. to Rte. 13 (Sprout Brook Rd.).
2-10	P-6 (E-8)	Canopus Hollow Rd. @ [r] Bell Hollow Rd.	(See 2-6), Rte. 13, Sprout Bk. Rd. / Rte. 15, Canopus Hollow Rd. North. **Left** to Horton Hollow Rd. North. **Left** to (again) Canopus Hollow Rd. North.
3-1	W-2 (C-6)	Louisa St. @ R.R. Bridge.	Rte. 9A North. **Left** to Welcher Ave. **Right** to Lower South St. North. **Left** to Louisa St..

ADDENDUM 8.5

Offsite Emergency Sampling Locations

Sheet 2 of 7

Sector-Mile	Map Number (Grid)	Location	Directions (off major roads from site)
3-3	W-1 (D-5)	Horton Dr. @ Hillcrest Elementary School	Rte. 9 North to Bear Mt. Ext. North. **Right** to Carhart Ave. **Right** to Leda Drive. **Right** to Horton Dr.
3-6	W-1 (E-3)	Oregon Rd. @ [r] Rte. 21, Peekskill Hollow Rd.	Rte. 9 North to Bear Mt. Ext. North. **Right** to Division St. Exit. **Left** to Division St., to Oregon Rd. North.
3-10	P-6 (F-8)	Rte. 21, Peekskill Hollow Rd. @ [l] Tinker Hill Rd.	(See 3-6), **Right** to Rte. 21, Peekskill Hollow Rd.
4-1	W-2 (C-7)	Lower South St. [r] @ 0.1-0.2 mi. fm Welcher Ave. past A&P. (Mearl Corp. Entrance)	Rte. 9A North. **Left** to Welcher Ave. **Right** to Lower South St. North.
4-3	W-2 (D-6)	Maple Ave. @ [l] Chapel Hill Dr. (Chapel Hill Estates)	Rte. 9A North. **Right** to Welcher Ave. **Left** to Washington St. Right to Hudson Ave. **Right** to Maple Ave.
4-6	W-11 (F-4)	Lexington Ave. @ [r] Townsend Rd.	Rte. 9 North to Bear Mt. Ext. North. **Right** to Rte. 6 Exit. **Left** to Rte. 6 East. **Right** to Lexington Ave.
4-10	W-11 (J-3)	Somerston Rd. @ [l] Carol Court	Rte 9 North to Bear Mt. Ext. **Right** to Rte 6 Exit. **Left** to Rte 6 East. **Right** on Curry St. **Left** on Weskora Rd. **Left** on Somerston Rd.
5-2	W-2 (C-7)	McKinley St. @ [l] (former McKinley School).	Rte. 9A North. **Right** to Welcher Ave. **Left** on McKinley St.

ADDENDUM 8.5

Offsite Emergency Sampling Locations

Sheet 3 of 7

Sector-Mile	Map Number (Grid)	Location	Directions (off major roads from site)
5-4	W-2 (E-7)	Furnace Woods Rd. @ Maple Ave.	Rte. 9 South. **Right** to Montrose Exit. **Right** to Rte. 9A North. **Right** to Watch Hill Rd. **Left** to Furnace Woods Rd.
5-7	W-12 (G-7)	Hunterbrook Rd @ 0.3-0.4 mi North of Baptist Church Rd. (Coaxial Crossing #571)	Rte. 9 South. **Right** to Rte. 129 Exit. **Left** to Municipal Pl. **Left** to Rte.129, Maple St. North. **Left** to Hunterbrook Rd.
5-10	W-12 (J-7)	Hanover St. @ Moseman Rd. (St. Patrick's School)	Rte. 9 South. **Right** to Rte. 129 Exit. **Left** to Municipal Pl. **Left** to Rte.129, Maple St. North. **Left** to Underhill Ave. **Right** to Hanover St.
6-1	W-2 (C-7)	Rte. 9A @ Tate Ave. (Desolate Corp.)	Rte. 9A South to Tate Ave.
6-3	W-2 (D-8)	Watch Hill Rd. @.[l] Mountainside Tr.	Rte. 9A South. **Left** on Watch Hill Rd.
6-7	W-12 (F-9)	Rte. 129 North @ Hunter Brook Bridge	(See 5-10), Rte.129, Maple St. North.
6-10	W-13 (J-10)	Rte. 134 @ Rte. 100	Rte. 9 South. **Left** to Rte. 9A South. **Left** to Rte 134, Croton Dam Rd.
7-1	W-2 (B-7)	Westchester Ave. @ [l] 1st St.	Rte. 9A South. **Right** to Tate Ave. **Right** to Westchester Ave.
7-4	W-2 (D-9)	Watch Hill Rd. @ [l] Westminster Dr.	(See 5-4), **Right** to Watch Hill Rd.
7-6	W-3 (E-11)	Cleveland Dr. @ [r] Hughes St.	(See 5-10), Rte.129, Maple St. North. **Right** to Old Post Rd. South. **Left** to Cleveland Dr.
7-10	W-4 (G-13)	North State Rd. @ Ryder Ave.	Rte. 9 South. **Left** to Rte. 9A South. **Left** to North State Rd.

ADDENDUM 8.5

Offsite Emergency Sampling Locations

Sheet 4 of 7

Sector-Mile	Map Number (Grid)	Location	Directions (off major roads from site)
8-1	W-2 (B-7)	Westchester Ave. @ (Buchanan Verplank Elementary School)	(See 7-1), Westchester Ave. past 1st St., between 4th St. and Pheasant Run.
8-3	W-3 (C-9)	Crugers Station Rd. @ [r] Ripley Pl.	Rte. 9A South. **Right** to Crugers Station Rd.
8-7	W-3 (D-12)	Croton Pt. Ave. @ Fixed Air Sampling Sta.	Rte. 9 South. **Right** to Croton Pt. Ave. Exit. **Right** on Croton Pt. Ave.
8-10	W-4 (E-15)	Liberty St. @ Hudson St.	Rte. 9 South. **Right** to Revolutionary Rd. **Right** to Rockledge Ave. **Left** to Liberty St.
9-1	W-2 (B-8)	14th St. @ James St.	(See 8-1), Westchester Ave. to 14th St. Right to 14th St.
9-3	W-2 (B-8)	Montrose Pt. Road @ End (outside George's Island Park)	Rte. 9A South. **Right** to Kings Ferry Rd. to Montrose Pt. Rd.
9-7	R-6 (X-12)	Rte. 9W South @ Rte. 90, South Mountain Rd.	Bear Mt. Bridge West to Rte. 9W South.
9-10	R-9 (X-16)	Kings Highway North @ Old Mill Rd.	(See 9-7), Rte 9W South. **Right** to Rte. 303. **Right** on Rockland Lake Rd. **Right** to Rte. 13, Casper Hill Rd. / Kings Highway North.
10-1	W-2 (B-8)	11th St. @ Highland Ave. (Church)	Broadway South. **Right** to 11th St.

ADDENDUM 8.5

Offsite Emergency Sampling Locations

Sheet 5 of 7

Sector-Mile	Map Number (Grid)	Location	Directions (off major roads from site)
10-4	R-3 (W-8)	Grassy Point Rd. @ Beach Rd.	(See 1-2), Bear Mt. Bridge West to Rte. 9W/202 South. **Left** to Rte. 108, Main St. to Grassy Point Rd.
10-7	R-6 (T-12)	Central Highway / Little Tor Rd. @ Rte. 90, South Mountain Rd.	(See 1-2), Bear Mt. Bridge West to Rte. 9W/202 South. **Right** at Rte. 202 Westside Ave. **Left** to Rte.33, Central Highway / Little Tor Rd.
10-10	R-8 (S-15)	West Clarkstown Rd. @ Palisades Pkwy. Overpass	Palisades Pky. South. **Right** to exit 11. **Left** to New Hempstead Rd. **Right** to West Clarkstown Rd.
11-1	W-2 (B-8)	9th St. extension @ Radiation Monitor Sta. #11. (Lock combination required)	Broadway South. **Right** to 9th St. past gate, between abandoned bunkers and transmission tower.
11-3	R-3 (U-7)	Adams Dr. @ Gilmore Dr.	(See 1-2), Bear Mt. Bridge West to Rte. 9W/202 South. **Right** to Adams Dr.
11-6	R-3 (S-9)	Willow Grove Rd. @ Knapp Rd.	Palisades Pkwy. South. **Right** to Exit 14. **Left** to Willow Grove Rd.
11-10	R-5 (N-13)	Wilder Rd. @ Rte. 202 (Haverstraw Rd.)	Palisades Pkwy. South. **Right** to Exit 13. **Right** to Rte. 202 South, to Rte. 202 (Haverstraw Rd.) **Left** to Wilder Rd.
12-2	R-3 (V-6)	Rte 9W/202 @ south end of West Shore Dr.	(See sector 1-2) Bear Mt. Bridge West to Rte. 9W/202 South. to south end of West Shore Dr. (formerly Gays Hill Rd.)

ADDENDUM 8.5

Offsite Emergency Sampling Locations

Sheet 6 of 7

Sector-Mile	Map Number (Coordinates)	Location	Directions (off major roads from site)
12-4	R-3 (T-7)	Franck Rd. @ Richard C. Brown Dr.	Palisades Pkwy. South. **Right** to Exit 15. **Right** on Rte 106, Old Gate Hill Rd. to Cedar Pond Rd. **Left** to Bulsontown Rd. **Right** to Franck Road.
12-7	R-3 (Q-7)	Lake Welch Dr. @ Sewage Plant.	Palisades Pkwy. South. **Right** to Exit 16. **Right** to Lake Welch Drive (Road closed during winter months).
12-10	R-2 (K-9)	Lake Welch Dr. @ Seven Lakes Dr.	(See 12-7) continue on Lake Welch Drive. (Road closed during winter months).
13-2	R-1 (V-5)	Rte 9W/202 @ north end of West Shore Dr.	(See 1-2) Bear Mt. Bridge West to Rte. 9W/202 South. **Left** to north end of West Shore Dr. (formerly Gays Hill Rd.)
13-3	R-3 (U-5)	Mott Farm Rd @ entrance to Camp Addison Boyce. (Lake Bullowa).	(See 1-2) Bear Mt. Bridge West to Rte. 9W/202 South. **Right** to Rte. 118A. **Right** to Rte. 118, Mott Farm Rd.
13-9	O-21 (W-16)	Arden Valley Rd. @ Arden Rd./ Bailey Town Rd.	Palisades Pkwy. South. **Right** to Exit 18 to Seven Lakes Dr. to Lake Tiorati Circle to Arden Valley Rd. West.
14-2	R-1 (W-4)	Thunder Mt. Rd. @ Radiation Monitor Sta. #14	(See 1-2) Bear Mt. Bridge West to Rte. 9W/202 South. **Right** to Thunder Mt. Rd.
14-6	O-18 (Z-14)	Rte. 6 @ 1.0 mi. West of Palisades Pkwy	Palisades Pkwy. South. **Right** to Exit 18. Continue to Rte. 6 West.
14-10	O-17 (X13)	Rte. 9, Smith Clove Rd. North @ NYS Twy. Overpass.	(See 14-6) Continue on Rte. 6 West. **Right** to Averill Ave. Continue on Rte. 32 North. **Right** to Rte. 9, Smith Clove Rd. North.

ADDENDUM 8.5

Offsite Emergency Sampling Locations

Sheet 7 of 7

Sector-Mile	Map Number (Grid)	Location	Directions (off major roads from site)
15-1	R-1 (W-4)	Rte 9W/202 @ Anchor Monument. (directly across from Indian Point).	(See 1-2), Bear Mt. Bridge West to Rte. 9W/202 South.
15-4	R-1 (U-2)	Rte.9W/202, 0.5 mi. south of bridge @ Bear Mount Inn.	(See 1-2), Bear Mt. Bridge West to Rte. 9W/202 South. **Right** to Bear Mountain Inn.
15-6	O-18 (AA-13)	Mine Rd. @ Weyants Pond Rd.	(See 1-2), Bear Mt. Bridge West to Rte. 9W North. **Left** to Old Rte. 9W (Firefighter's Mem. Dr.). **Left** to Mine Rd.
15-10	O-18 (Y-12)	Smith Clove Rd. @ Trout Brook Rd. / Mineral Springs Rd.	(See 14-6), Continue on Rte. 6 West. **Right** to Averill Ave. Continue on Rte. 32 North. **Right** to Rte. 9, Smith Clove Rd. North.
16-1	R-1 (X-4)	Ayers Rd @ Radiation Monitor Sta. #16.	(See 1-2), Bear Mt. Bridge West to Rte. 9W/202 South. **Left** to Ayers Rd (Old Rte. 9W).
16-4	R-1 (U-1)	Bear Mt. Bridge @ west end, (traffic circle).	(See 1-2), Bear Mt. Bridge Rd. West to Bear Mt. Bridge West.
16-6	O-18 (BB-13)	Morgan's Farm Rd. @ 0.7-0.8 Mi. West of Cragston Lakes.	(See 16-4), Bear Mt. Bridge West to Rte. 9W North. **Right** to Exit. **Left** to Rte. 218, to Morgan's Farm Rd.
16-9	O-18 (BB-11)	Rte. 9W @ Rte. 293	(See 16-4), Bear Mt. Bridge West to Rte. 9W North to Rte. 293.

Key for County Maps

W- Westchester County Map, © 2001
R- Rockland County Map, © 2000
P- Putnam County Map, © 2001
O- Orange County Map, © 2000

Map Number and Coordinates based on Hagstrom County Atlases.