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AmerGen
An Exelon/British Energy Company

10 CFR 50 App. E

Aug 7, 2002
2130-02-20232

United States Nuclear Regulatory Commission
Document Control Desk
Washington DC 20555

Subject: Oyster Creek Generating Station
Docket 50-219
Emergency Plan Implementing Procedure Revisions

In accordance with 10 CFR 50 Appendix E, Section V, enclosed is the revised index for the Oyster Creek Emergency Plan Implementing Procedures and the below listed procedures:

Procedure Number	Title	Revision
EPIP-OC- .10	The Operations Support Center	14
EPIP-OC- .11	Emergency Radiological Surveys Offsite	18

If any further assistance or information is required, please contact Mr. John Rogers, of my staff, at 609.971.4893

Very truly yours,

Ron J. DeGregorio, Vice President
Oyster Creek Generating Station

RJD/JJR
cc: Administrator, Region I (2 copies)
NRC Senior Resident Inspector

A045

EPIP SERIES - EMERGENCY PLAN IMPLEMENTING PROCEDURES

PROCEDURE NO.	TITLE	REV.	DATE
6630-ADM-4010.03	Emergency Dose Calculation Manual (EDCM)	11	07/23/00
EPIP-OC-.01	Classification of Emergency Conditions	13	05/31/02
EPIP-OC-.02	Direction of Emergency Response/Emergency Control Center	30	11/19/01
EPIP-OC-.03	Emergency Notification	29	11/07/01
EPIP-OC-.06	Additional Assistance and Notification	26	12/12/01
EPIP-OC-.10	Emergency Radiological Surveys Onsite	14	08/05/02
EPIP-OC-.11	Emergency Radiological Surveys Offsite	18	07/25/02
EPIP-OC-.12	Personnel Accountability	9	07/07/01
EPIP-OC-.13	Site Evacuation & Personnel Mustering at Remote Assembly Areas	10	01/31/02
EPIP-OC-.25	Emergency Operations Facility (EOF)	26	12/04/01
EPIP-OC-.26	The Technical Support Center	23	07/05/01
EPIP-OC-.27	The Operations Support Center	14	04/19/02
EPIP-OC-.31	Environmental Assessment Command Center	11	08/08/00
EPIP-OC-.33	Core Damage Estimation	5	08/08/00
EPIP-OC-.35	Radiological Controls Emergency Actions	15	12/17/01
EPIP-OC-.40	Site Security Emergency Actions	12	12/11/01
EPIP-OC-.41	Emergency Duty Roster Activation	8	07/02/02
EPIP-OC-.44	Thyroid Blocking	2	07/21/01
EPIP-OC-.45	Classified Emergency Termination/Recovery	3	12/04/01
OEP-ADM-1319.01	Oyster Creek Emergency Preparedness Program	11	01/22/02
OEP-ADM-1319.02	Emergency Response Facilities & Equipment Maintenance	12	06/13/02
OEP-ADM-1319.04	Prompt Notification System	4	07/19/02
OEP-ADM-1319.05	Emergency Preparedness Event Reports	2	07/02/01

Oyster Creek Licensing Correspondence Distribution Sheet

File No.	**02004**	**Letter Date**	**08/07/2002**
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Title Description: **Revisions: EPIP-OC- .10, and -.11**

LICENSING ENGINEER: **John Rogers**

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AmerGen. An Exelon/British Energy Company	OYSTER CREEK EMERGENCY PREPAREDNESS IMPLEMENTING PROCEDURE	Number EPIP-OC-.10
Title **Emergency Radiological Surveys Onsite**		Revision No. 14
Applicability/Scope Applies to work at Oyster Creek	Usage Level 2	Responsible Department Emergency Preparedness
		Effective Date 8/5/02

Prior Revision 13 incorporated the following Temporary Changes:

N/A

This Revision 14 incorporates the following Temporary Changes:

N/A

List of Pages (all pgs. rev'd to Rev. 14)

1.0 to 6.0
E1-1 to E1-2
E2-1
E3-1
E4-1
E5-1
E6-1 to E6-2
E7-1
E8-1
E9-1
E10-1
E11-1
E12-1
E13-1

	Signature	Concurring Organization Element	Date
Originator	James P Bonkemper	Emergency Planner	7/30/2002
Approved By	R Mark Moore	Radiation Protection Manager	7/30/02

PROCEDURE HISTORY

REV	DATE	ORIGINATOR	SUMMARY OF CHANGE
3	12/94	A. Smith	Add Document History page and correct numbering on Exhibits 18 through 23.
4	09/95	J. Bontempo	Use cellular phones as primary communications for FMT's.
5	01/96	J. Bontempo	Correct references to Exhibits 8 through 21 (previously 9 through 22).
6	03/97	A. Smith	Allow RAC to perform the RCC duties, update survey maps, delete Exhibit 13, recovery of radio communications due to cell phones being primary mode of comm.
D	06/97	J.W. Rayment	Draft - when ready to be rev'd don't forget to put In your summary of change.
7	09/98	J.W. Rayment	•Add initial spaces to section 4.2, delete initial spaces from exhibits 1, 2, & 4. •Allow use of normal Rad Con procedures for surveys. •Change exhibits to reflect normal procedures. •Delete exhibits that do not reflect normal procedures. •Change 1/4 mile offsite map to be more accurate. •Change air sampling default to 1 minute samples. •Change air sampler to Lo volume instead of Hi volume.
8	10/99	A. Smith	Update phone numbers for field teams. Remove reference to EPIP-OC-.04, this procedure was deleted.
9	12/99	G. Seals	Procedure does not comply with minimum detectable activity requirements of NUREG 0654.
10	DOS	A. Smith	Change reference from GPU or GPUN to OCNGS
11	06/01	R. Finicle	Changed Safety Review Required from "yes" to "no" on the cover page. Changed the title "GRCS" to "on-shift Radiological Assessment Coordinator. Update DC Air Sample info. Update vehicle usage.
12	11/01	A. Smith	Remove reference to EPIP-OC-.04.
13	03/02	J. Bontempo	Clarify flowrate criteria for air samples Pg. E3-1
14	07/02	J. Bontempo	Clarify flowrate criteria for air samples Page E3-2 to include minimum flowrate to meet 1E-7 µCi/cc

1.0 PURPOSE

1.1 This procedure describes the responsibilities and duties of personnel involved in the conduct of Onsite Radiological/Environmental Monitoring.

2.0 APPLICABILITY/SCOPE

2.1 This procedure applies to all emergency response personnel involved in Onsite Radiological/Environmental Monitoring Team activities.

2.2 This procedure is to be initiated upon any of the following conditions:

2.2.1 Alert, Site Area Emergency or General Emergency as determined by Procedure EPIP-OC-.01, Classification of Emergency Conditions.

2.2.2 Upon direction of the Emergency Director.

3.0 DEFINITIONS

3.1 None

4.0 RESPONSIBILITIES

4.1 Onsite RAC

4.1.1 The RAC may perform the responsibilities of the RCC. If that occurs, FMT activities will be reported to the RAC directly until there are personnel resources available to station the RCC function separately. When the resources are available, the RAC may transfer onsite FMT activities to the RCC.

4.2 Onsite Radiological/Environmental Survey Teams

4.2.1 The Onsite Radiological/Environmental Survey Team communicates directly to the RAC/RCC and is responsible for conducting emergency radiological monitoring within the Protected Area and up to 1/4 mile perimeter from the site boundary (Exhibit 12, 1/4 mile Offsite Map).

NOTE

The Onsite Radiological/Environmental Survey Team may be directed beyond the 1/4 mile perimeter to perform offsite radiological monitoring until the Offsite Radiological/Environmental Survey Teams are fully manned and ready to be deployed.

NOTE

Offsite monitoring points are found in Exhibit 12 of Procedure EPIP-OC-.11, Offsite Radiological Environmental Surveys.

INITIALS

_____ 4.2.2 Team members shall assemble and complete actions identified in Exhibit 1, "Team Assembly and Formation".

_____ 4.2.3 Team members shall obtain monitoring instruments and equipment utilizing Exhibit 2, "Monitoring Instruments and Equipment".

_____ 4.2.4 Team members shall conduct air sampler pre-operational checks in accordance with Reference 6.8. Also, utilizing Exhibit 3, "Emergency Air Sampling".

_____ 4.2.5 Team members shall prepare the vehicle by completing action identified in Exhibit 4, "Vehicle Preparation".

_____ 4.2.6 Team members shall utilize survey instruments during cold weather by completing actions identified in Exhibit 5, "Cold Weather Instrument Operations".

INITIALS

4.2.7 Team members shall conduct onsite surveys utilizing Exhibit 6, "Conducting on Site Surveys" when so directed. (Refer to Exhibit 10 and Exhibit 13).

_____

4.2.8 Team members shall terminate monitoring activities by completing actions identified in Exhibit 7, "Termination of Monitoring Activities".

_____

4.3 If the onsite team is dispatched offsite beyond the 1/4 mile radius, the team shall suspend use of this procedure and implement the appropriate sections of EPIP-OC-.11 for conducting surveys and collection of air samples.

_____

5.0 PROCEDURE

5.1 Onsite Radiological/Environmental Survey Team(s) members shall implement this procedure during an emergency.

6.0 REFERENCES

6.1 2000-PLN-1300.01, OCNGS Emergency Plan.

6.2 OEP-ADM-1319.02, Emergency Response Facilities and Equipment Maintenance.

6.3 EPIP-OC-.01, Classification of Emergency Conditions.

6.4 Memorandum 9502-88-0098, Field Measurement of Airborne Releases of Radioactive Material, G.M. Lodde, May 25, 1988.

6.5 Radiological/Industrial Safety and Health Awareness Report, 89-027, 9-25-89.

6.6 6630-ADM-4200.01, Radiological Surveys.

6.7 6630-ADM-4212.01, Air Sample Collection and Analysis.

7.0 EXHIBITS

7.1 Exhibit 1, Team Assembly and Formation

7.2 Exhibit 2, Monitoring Instruments and Equipment

7.3 Exhibit 3, Emergency Air Sampling

7.4 Exhibit 4, Vehicle Preparation

7.5 Exhibit 5, Cold Weather Instrument Operations

7.6 Exhibit 6, Conducting On-Site Surveys

7.7 Exhibit 7, Termination of Monitoring Activities

7.8 Exhibit 8, Onsite Emergency Monitoring Points

7.9 Exhibit 9, Onsite Monitoring Point Map

7.10 Exhibit 10, Sample Record

7.11 Exhibit 11, Air Activity (Iodine) Nomogram

7.12 Exhibit 12, Approx. 1/4 Mile Offsite Map

7.13 Exhibit 13, Survey Form

EXHIBIT 1

TEAM ASSEMBLY AND FORMATION

1.0 The Onsite Radiological/Environmental Survey Team will consist of two (2) team members. At least one member shall be a Radiological Controls Technician who shall be designated Team Leader.

2.0 The Onsite Radiological/Environmental Survey Team shall mobilize, and report as directed by the RAC/RCC.

3.0 Obtain the emergency monitoring vehicle key. If the key is not available, a backup key may be obtained from the guard at the Main Gate Processing Center.

3.1 Obtain cellular phone from On-Shift Radiological Assessment Coordinator lock box as primary mode of communications.

3.2 Obtain a portable radio for back up communications (Channel 1 would be used).

3.3 Team members shall conduct cell phone communications (primary) or radio communications (secondary) observing appropriate Radio Communications Protocol.

TEAM MEMBERS

NAME		SSN	AVAILABLE DOSE
_____	(Team Leader)	_____	_____
_____		_____	_____
_____		_____	_____

EXHIBIT 1
(continued)

TEAM ASSEMBLY AND FORMATION

NOTE

When operating the phone while in vehicle pedestal the vehicle must be on or the key in the accessory mode in order for the phone to be unlocked, then speed dial can be accomplished. When phone is hand held it operates normally.

3.3 The following is a list of locations, speed dial codes and actual phone numbers used by field teams and their respective contact.

LOCATION	SPEED DIAL	PHONE #
RAC/ECC	01	609-971-0335
RAC/TSC	02	609-971-4156
EAC/EACC	03	732-367-8805
	*	732-370-8990
FMT "A"	04	609-457-3560
FMT "B"	05	609-457-3441
FMT "C"	06	609-457-1525
ONSITE FMT	07	609-457-3592
RCC/OSC	08	609-971-4880
EMERG.	09	911
ECC	10	609-971-4666

*732-370-8990 Dial Manually

4.0 If the vehicle is not available, contact Security to obtain keys for any on-site vehicle and proceed with FMT response.

5.0 If a vehicle cannot be located or returned immediately, inform the RCC/RAC and request further guidance.

EXHIBIT 2

MONITORING INSTRUMENTS AND EQUIPMENT

1.0 The onsite Radiological Survey Team shall ensure the following instruments are available in the onsite van or obtain them, From: (ie. Rad Con Count Room, Radiac Trailer, the OSC monitoring instrument locker), and perform the pre-operational checks as required.

NOTE
OP CS-137 check source is in emergency locker for use if Pre Op checks have not been done already.

1.1 One (1) doserate survey instrument with capability of measuring 0.2 mR/hr and greater and capable of determining Beta readings.

1.2 One (1) countrate survey instrument with a pancake style probe.

1.3 One (1) air sampler (Lo Vol RAS Pump)

1.4 One (1) DC air sampler

EXHIBIT 3

EMERGENCY AIR SAMPLING

NOTE 1

Silver zeolite cartridges to be used for all samples.

NOTE 2

Flow rate on all samples is to be a minimum of 23 lpm (23 - 30 lpm)

NOTE 3

Verify operation of power inverter in van prior to use.

Initials

1.0 DC Air Sampler Use

_____ 1.1 Ensure the 2 position switch (off-run) is in the OFF position.

1.2 Connect the air sampler directly to the vehicle's battery terminals via connection on bumper or grille.

1.4 Turn ON A/S and adjust flow as needed.

_____ 1.5 Turn OFF A/S and disconnect from the vehicle.

EXHIBIT 4

VEHICLE PREPARATION

1.0 Verify emergency equipment lockers/kits are locked or sealed.

2.0 If the emergency locks are not locked or sealed, conduct an inventory using inventory checklist from Procedure OEP-ADM-1319.02, Emergency Response Facilities and Equipment Maintenance. (Appendix B-2).

3.0 Perform radio check with RAC/RCC.

4.0 Log any deficiencies and report information to RAC/RCC.

NOTE

Team members shall log into Rem-On-Line System or initiate a control point admission ticket. (An ESRD or a 0-200 mR and a 0-1500 mR SRD required.)

EXHIBIT 5

COLD WEATHER INSTRUMENT OPERATIONS

1.0 Caution must be observed to ensure instrument operation is not affected by extreme cold temperatures.

2.0 If ambient temperature is above 32°F (0°C), instrument use is unlimited.

3.0 If ambient temperature is below 32°F (0°C), continuous instrument use should be limited as follows:

Temperature	Continuous Operating Time
0 - 32°F [(-18°C) - (0°C)]	5 minutes
-20° - 0°F [(-28°C) - (-18°C)]	2 minutes

4.0 For operation in temperatures below 32°F (0°C), a battery check should be performed before and after each measurement.

4.1 If the battery check fails in either case, the measurement is not valid.

4.2 Return the instrument to the vehicle and allow the batteries to warm up.

4.3 Repeat the measurement as required.

EXHIBIT 6

CONDUCTING ON-SITE SURVEYS

1.0 If the On-Site Team is dispatched Off-Site beyond the 1/4 mile radius, suspend use of this procedure and implement appropriate sections of EPIP-OC-.11 for surveys.

2.0 The intent is to keep the vehicle within the Protected Area whenever possible. Monitoring Points ESE, SE, and SSE are outside the Protected Area. Due to the time required to enter and exit the Protected Area, verify with the OSC that those monitoring points are required.

3.0 Exhibit 8, "Onsite Emergency Monitoring Points" (describes the onsite locations).

4.0 Exhibit 9, "Onsite Monitoring Point Map" (identifies these locations).

5.0 Perform and document onsite surveys in accordance with established Rad Con procedures. (Exhibit 13: Survey Form - Example - Equivalent Form may be used).

5.1 A baseline perimeter survey should be performed when team is dispatched.

5.2 Perform surveys at the discretion of the RAC/RCC.

5.3 Identify on Survey Form whether survey location may be within the plume or not.

5.3.1 If open window reading is >110% of closed window reading, uncorrected, survey location may be within the plume.

5.4 Label all samples, (smears, air samples, water samples, etc.), with appropriate information (time, location, etc.).

EXHIBIT 6
(continued)

CONDUCTING ON-SITE SURVEYS

5.5 Refer to Exhibit 11, "Air Activity (Iodine) Nomogram", for field counting iodine air samples to estimate air iodine activity.

5.6 Document Survey on Exhibit 13 or Equivalent Form; any water, soil, or air samples to be documented on Exhibit 10 - sample record.

5.7 Communicate all survey results to the RCC/RAC as soon as practical.

NOTE 1

Draw a 5 minute minimum air sample at 25 LPM. (20-30 LPM) as indicated on the scale if possible using a watch, stopwatch or time to measure the time duration unless otherwise directed by the RAC/EAC. Sample time based on Rad. Eng. Calc. 2820-01-004.

NOTE 2

In the event that the E-van or a team member becomes contaminated, notify the RCC/RAC for a replacement or directions.

EXHIBIT 7

TERMINATION OF MONITORING ACTIVITIES

INITIALS

1.0 Upon direction of the RAC/RCC to cease monitoring activities.

_____ 1.1 Transport field monitoring samples to the Rad Con Counting Room or as directed by the RAC/RCC.

_____ 1.2 Log off the Rem-On-Line system as appropriate.

_____ 1.3 Inventory and return to storage all the emergency monitoring equipment in accordance with Appendix B of OEP-ADM-1319.02, "Emergency Response Facilities and Equipment Maintenance".

_____ 1.4 Return vehicle and keys to assigned location.

_____ 1.5 Submit team logs and data forms to RAC/RCC for his review and subsequent filing with the Document Control Center.

EXHIBIT 8

ONSITE EMERGENCY MONITORING POINTS

Sector	Location	Description
1	N	RCA perimeter road - west of Gate 8
2	NNE	RCA perimeter road - south side of Materials Warehouse
3	NE	RCA perimeter road - east side, halfway between Gate 20 and Materials Warehouse
4	ENE	RCA perimeter road - east side at Gate 20
5	E	RCA perimeter road - south east corner at AOG Building
6	ESE	Main site access road - directly south of AOG Building
7	SE	Main parking lot - first row directly south of Fuel Oil Storage Tank
8	SSE	Main parking log driveway at Main Gate 1
9	S	Auxiliary Office Building eastside adjacent to door
10	SSW	Auxiliary Office Building - westside adjacent to door
11	SW	Diesel Generator Building - eastside adjacent to door
12	WSW	Access road - westside Protected Area, west of transformers
13	W	Access road - westside Protected Area, west of demineralizer water storage tank
14	WNW	Access road - northwest corner, west of Torus Water Storage Tank
15	NW	Access road - adjacent to Gate 10A
16	NNW	Access road - halfway between North Guard House and Materials Warehouse, south of LLRW west corner

EXHIBIT 9

Onsite Monitoring Point Map

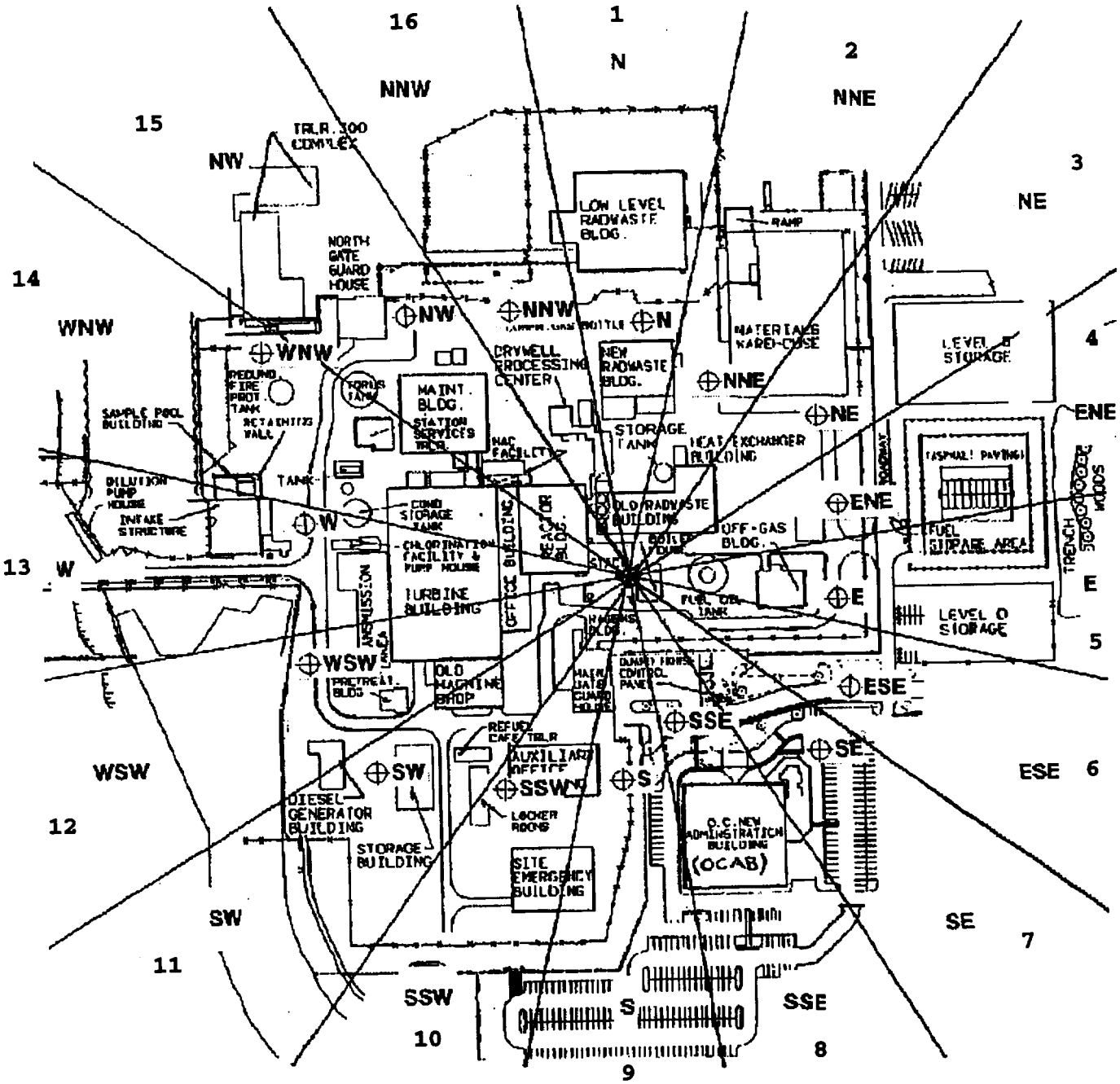


EXHIBIT 10
Sample Record

DATE:_____

#	TIME	LOCATION	SURVEY		AIR SAMPLE				
			WINDOW CLOSED mr/hr	WINDOW OPEN mr/hr	BKG cpm	PART cpm	SILVER ZEOLITE cpm	FLOW RATE LPM	RUN TIME Min
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

AIR SAMPLER TYPE_____ SERIAL NO._____ CAL. DUE_____

COUNTING INST. TYPE_____ SERIAL NO._____ CAL. DUE_____

SIGNED_____
TEAM LEADER

EXHIBIT 11

AIR ACTIVITY (IODINE)

5.5 A rough idea of the approximate iodine concentration and DAC value can be obtained from the table below:

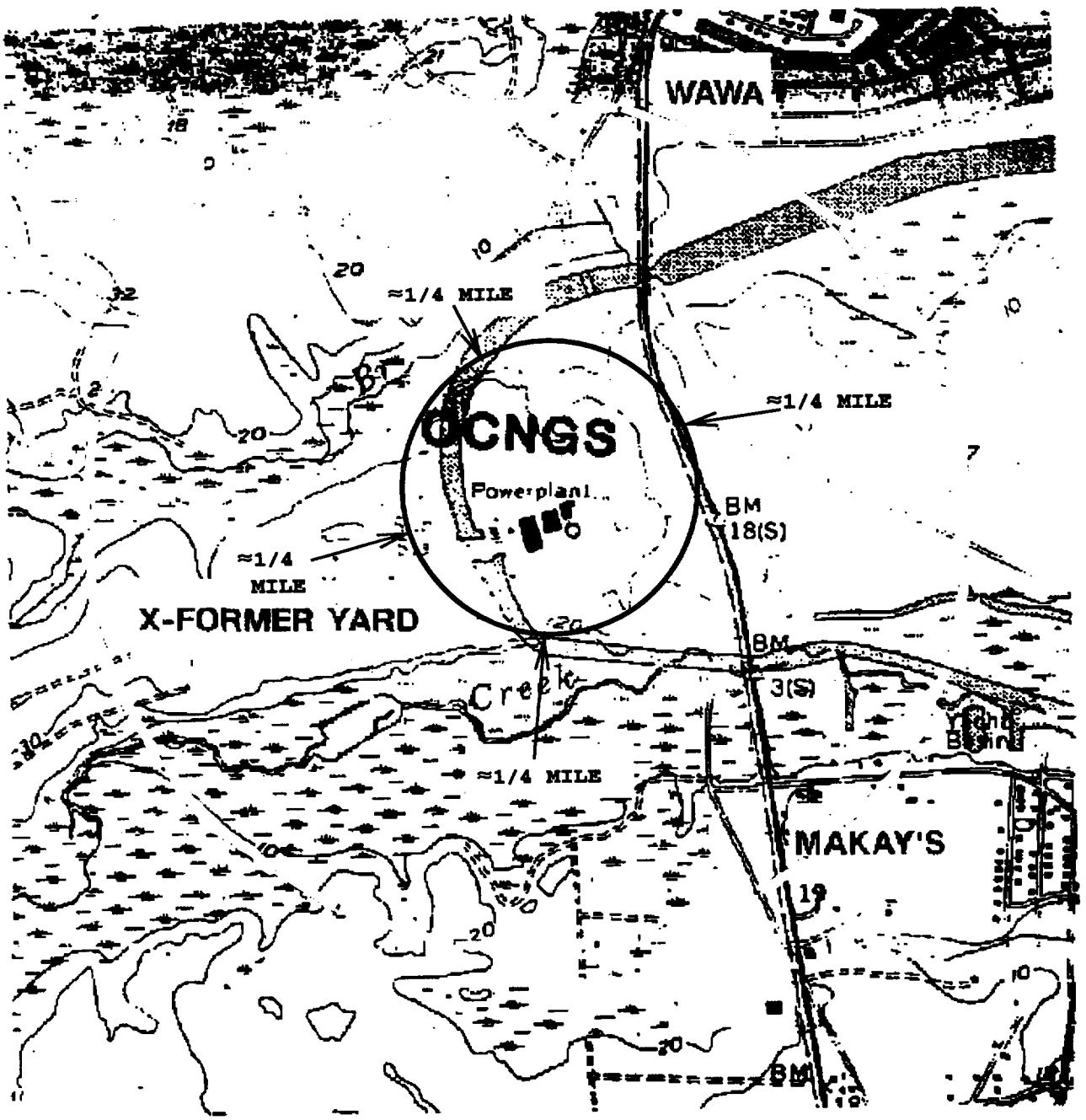
NET CPM	IODINE CONC (uCi/cc)	# of DAC's
100	9E-8	4.5
500	5E-7	25
1000	9E-7	45
5000	5E-6	250
10000	9E-6	450
50000	5E-5	2500

NOTE

This table is based on 5 minute sample times @ 25 LPM. Divide concentration and # of DAC's for all other sample times. The table is intended to give field teams a rough idea of what they are encountering. This data should not be used to make dose projections for the general public.

EXHIBIT 12

APPROX. 1/4 MILE OFFSITE MAP



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OYSTER CREEK EMERGENCY PREPAREDNESS IMPLEMENTING PROCEDURE

Number
EPIP-OC-.11

Title
Emergency Radiological Surveys Offsite

Revision No.
18

Applicability/Scope
Applies to work at Oyster Creek

Usage Level
2

Responsible Department
Emergency Preparedness

Effective Date
7/25/02

Prior Revision 17 incorporated the following Temporary Changes:

N/A

This Revision 18 incorporates the following Temporary Changes:

N/A

List of Pages (all pgs rev'd to Rev. 18

1.0 to 5.0
E1-1 to E1-2
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E15-1
E16-1
E17-1

	Signature	Concurring Organizational Element	Date
Originator	James E Bondeson	Emergency Planner	7/23/2002
Concurred By	R Mark Moore	Radiation Protection Manager	7/23/02

PROCEDURE HISTORY

Rev	Date	Originator	Summary of Change
4		A. T. Smith	Delete Parsippany Field Monitoring Team and Add Document History Page
5	12/94	A. T. Smith	Define RAC & EAC acronyms pg. 4.0 Delete Reference to PTFC pg. 5.0 Clarify dosimetry pg. E2-1 Clarify Plume search directions. Remove names at locations in Exhibit 12 Clarify Dose Rate Survey Open and Closed readings.
6	09/95	J. Bontempo	Use cellular phone as primary communications for FMTs.
7	12/95	J. Bontempo	Delete initial block for repetitive tasks. Rearrange order of task in E1-1 Delete term Teach Leader Pg. E1-2 Correct units to lpm Pg. E2-6, E10-1, E15-1 Delete signature block of EACC^{E} from pg. E15-1, E16-1, E17-1.
9	10/97	A. Smith	Update area code.
10	01/98	P. Milligan	Change air sample run time from 5 minutes to 1 minute.
11	07/98	J. Rayment	New Rad Engineering Calculation determined that open window to closed window ratio needs to be changed.
12	05/99	A. T. Smith	During annual review no other changes except the reference E-Plan # were identified.
13	10/99	A. T. Smith	Update phone numbers for field teams and consolidate phone number information.
14	12/99	G. Seals	Procedure does not comply with minimum detectable activity requirements of NURG 0654.
15	DOS	A. T. Smith	Required due to Sale of OCGS.
16	06/01	A. T. Smith	Remove air sampler, update DC air sampler info change various bldg. Locations to reflect new locations. Update cell phone instructions.
17	10/10	A. T. Smith	Remove reference to Building 12.
18	03/02	J. Bontempo	Exhibit 2 Section 9.0 correct step references Exhibit 2C Section 10.0 add flowrate criteria 23-30 lpm. Exhibit 6 Section 3.0 correct air sample instructions.

Rev	Date	Originator	Summary of Change
18	07/02	J. Bontempo	Pg 4.0, E2-1, E2-2, E2-3, E3-1 correct OCNGS to OCGS Exh 1, Pg E1-1 correct 32-F to 32°F Exh 2 Pg E2-1 Step 3.0 correct reference 4 from Exh 14 to Exh 13 Exh 10, Step 4.0 correct wording to prevent sample collection process. Addressed directed action for CAP O2002-0958-2.

1.0 PURPOSE

1.1 This procedure describes the responsibilities and duties of personnel involved in conducting Offsite Radiological/Environmental Monitoring and Sampling.

2.0 APPLICABILITY/SCOPE

2.1 This procedure applies to all Emergency Response personnel involved in Offsite Radiological/Environmental Monitoring Team activities.

2.2 This procedure is to be initiated upon any of the following conditions:

2.2.1 Alert, Site Area Emergency or General Emergency or as directed by the Emergency Director.

3.0 DEFINITIONS

3.1 None

4.0 RESPONSIBILITIES

4.1 Radiological/Environmental Survey Teams

The offsite Radiological/Environmental Survey Team performs offsite radiological and environmental monitoring and sampling in accordance with Exhibit 1, "Field Monitoring Team (FMT) Checklist".

5.0 PROCEDURE

5.1 The Offsite Radiological/Environmental Survey Team shall initially report to the Radiological Assessment Coordinator (RAC) until the Environmental Assessment Command Center (EACC) is manned and activated. When the EACC is manned and activated, the Offsite Radiological/Environmental Survey Teams then report to the Environmental Assessment Coordinator (EAC) who is responsible for directing emergency teams to conduct emergency radiological and environmental monitoring outside the protected area and to conduct plume tracking.

5.2 FMT members will proceed with Exhibit 1.

6.0 REFERENCES

6.1 2000-PLN-1300.01, OCGS Emergency Plan.

6.2 OEP-ADM-1319.02, Emergency Response Facilities and Equipment Maintenance.

6.3 EPIP-OC-.01, Classification of Emergency Conditions.

6.4 Memorandum 9502-88-0098, Field Measurement of Airborne Releases of Radioactive Material, G.M. Lodge, May 25, 1988.

7.0 EXHIBITS

7.1 Exhibit 1, "Field Monitoring Team (FMT) Checklist"

7.2 Exhibit 2, "OCGS FMT Activation Checklist"

7.2.1 Exhibit 2A, Intentionally Left Blank

7.2.2 Exhibit 2B, "Dose Rate and Count Rate Instrument Op Check"

7.2.3 Exhibit 2C, "DC Air Sampler Op Check"

7.3 Exhibit 3, "OCGS FMT Termination Checklist"

7.4 Exhibit 4, "Conduct of a Dose Rate Survey"

7.5 Exhibit 5, "Conduct of a Count Rate Survey"

7.6 Exhibit 6, "Conduct of an Air Sample"

7.7 Exhibit 7, "Conduct of Noble Gas Sampling"

7.8 Exhibit 8, "Conduct of Soil or Snow Sampling"

7.9 Exhibit 9, "Conduct of Vegetation Sampling"

7.10 Exhibit 10, "Conduct of Water Sampling"

7.11 Exhibit 11, "Offsite Monitoring Points"

7.12 Exhibit 12, "Plume Search Routes"

7.13 Exhibit 13, "Offsite Radiological/Environmental Survey Team Log"

7.14 Exhibit 14, "Sample Record"

7.15 Exhibit 15, "Count Rate Survey Record"

7.16 Exhibit 16, "Environmental Sample"

7.17 Exhibit 17, "Dose Rate Survey Record"

EXHIBIT 1

Field Monitoring Team (FMT) Checklist

Initials

_____ 1.0 OCGS FMTs will complete Exhibit 2, OCGS FMT Activation Checklist.

_____ 2.0 Upon direction from the EAC/RAC cease monitoring activities and complete Exhibit 3, FMT Termination Checklist" as appropriate.

3.0 Frequently monitor your SRDs. When a SRD indicates 3/4 or greater scale, record the dose on your Control Point Admission Ticket, rezero the SRD, and fill out a new ticket.

4.0 Monitor the dose rate in your vehicle. If the dose rate exceeds 2 mrem/hr at the driver or passenger locations due to field monitoring samples, notify the EACC/RAC. To determine this, conduct a dose rate survey in the vehicle cab while the vehicle is in an area of normal background.

5.0 Notify the EACC/RAC when any team member's accumulated dose approaches 1000 mrem TEDE.

6.0 If the outside temperature is less than 32°F the continuous instrument use should be limited as follows:

Temp	Continuous Operation Time
0°F - 32°F	5 minutes
-20°F - 0°F	2 minutes

Battery checks must also be performed before and after each use. If either check is not satisfactory, the measurement is not valid. The instrument should be returned to the vehicle and the batteries allowed to warm up.

7.0 Conduct surveys, air samples and biota sampling as directed by the EAC.

- Dose rate surveys are performed in accordance with Exhibit 4
- Count rate surveys are performed in accordance with Exhibit 5
- Air samples are performed in accordance with Exhibit 6
- Noble gas samples are performed in accordance with Exhibit 7
- Snow and soil samples are performed in accordance with Exhibit 8
- Vegetation samples are performed in accordance with Exhibit 9
- Water samples are performed in accordance with Exhibit 10

EXHIBIT 1
(Continued)

Field Monitoring Team (FMT) Checklist

Initials

8.0 Periodically conduct a whole body frisk and smear the surfaces of the vehicle.

- If the Beta-Gamma contamination is found to be above the following levels notify the EAC and report to the RAA or effect local decontamination and documentation as directed.

Beta Gamma	100 cpm/100cm^2 Surface area of vehicle
Beta Gamma	100 CPM above background, direct frisk of the wheels

- Vehicles, contamination control station and instruments may be decontaminated in the field by wiping down with maslin cloth taking care to fold maslin inward after each wipe. By using the count rate instrument to check the maslin after each wipe, a rough order of level of Beta-Gamma contamination may be approximated. Always make one pass with the maslin cloth. Never use the same side to decontaminate a surface. After decontamination place maslin cloth in poly bag, label and conduct a dose rate survey.

Time _____

Signature _____

EXHIBIT 2

OCGS FMT ACTIVATION CHECKLIST

Initials

_____ 1.0 Two team members present. If a qualified team member is not available, an untrained individual may be used as a driver/assistant. The RAC or EAC must approve the individual.

> NOTE
>
> The RAC or EAC may authorize or direct team dispatch without completing one or more checklist steps.

_____ 2.0 Obtain cellular phone for primary communications labeled for your team and a Hand Held Radio for backup communications from the FMT Equipment Locker. The cell phones have adapters to plug into the cigarette lighter for power.

_____ 3.0 Contact the RAC by phone and inform him that your team is beginning activation. If RAC unavailable contact EAC.

Obtain plant status and meteorological conditions from the RAC/EAC Document on Exhibit 13. The following is a list of locations, speed dial codes and actual phone numbers used by field teams and their respective contact.

Location	Speed Dial	Phone #
RAC/ECC	01	609-971-0335
RAC/TSC	02	609-971-4156
EAC/EACC	03	732-367-8805
	*	732-370-8990
FMT "A"	04	609-457-3560
FMT "B"	05	609-457-3441
FMT "C"	06	609-457-1525
ONSITE FMT	07	609-457-3592
RCC/OSC	08	609-971-4880
EMERG.	09	911
ECC	10	609-971-4666
*Dial Manually		732-370-8990

_____ 4.0 Each team member shall obtain one TLD, and one ESRD and initiate a Control Point Admission Ticket.

_____ 5.0 Check the seals on the storage container kits. If a seal is broken, an inventory must be performed in accordance with Appendix B-1 of OEP-ADM-1319.02.

_____ 6.0 Obtain one dose rate and two count rate survey instruments and Op Check in accordance with Exhibit 2B.

EXHIBIT 2
(Continued)

OCGS FMT ACTIVATION CHECKLIST

Initials		
_____	7.0	Obtain one DC Air Sampler and Op Check in accordance with Exhibit 2C.
_____	8.0	Obtain two water-filled 500 ml sample bottles for noble gas sampling. Fill each with water and seal tightly. Generally, filled bottles will be kept in the storage locker.
_____	9.0	Transport the following to the vehicle. 1 cellular phone 2 sets of dosimetry (one each member) from step 3.0 1 hand held radio from step 4.0 1 dose rate survey instrument from step 6.0 2 count rate survey instruments from step 6.0 1 DC Air Sampler from step 8.0 2 500 ml sample bottles from step 9.0 1 Notebook binder containing EPIP-OC-.11 with attachments and OEP-ADM-1319.02, Appendix B 1 Map of Offsite Monitoring Points. The map is contained in the notebook. 1 portable search light
_____	10.0	Place a 2ft x 2ft poly sheet on the back floor of the vehicle.
_____	11.0	Tape up poly bags on the inside of the vehicle doors to be used for contaminated waste and gloves.
_____	12.0	Turn the radio select knob on the vehicle emergency radio to "Position 1". Set the hand held radio to "Position 5". Contact the EACC or RAC for a radio check.
_____	13.0	Initiate a Survey Team Log using Exhibit 13. The log should include: • Dispatch locations and requested actions • Significant information (e.g., personnel or vehicle contamination, personnel over-exposure, requests for assistance, etc.) • Notifications of Emergency Classifications or Termination.

EXHIBIT 2
(Continued)

OCGS FMT ACTIVATION CHECKLIST

Initials

_____ 14.0 Notify the EACC or RAC that you are ready to be dispatched. Give the EAC/RAC the names, social security numbers, and remaining dose of each team member.

If remaining dose is not known for a team member, information can be obtained from the RAC/RCC at the ECC, TSC, or OSC as appropriate.

_____ 15.0 Proceed to the location directed by the EACC or RAC. If for some reason communications with the RAC or EACC are interrupted, one team will proceed to the nearest downwind sampling point identified in Exhibit 11. The second team will proceed on the plume search route as determined by the wind direction and the directions in Exhibit 12. Always continue to try and establish communications with the RAC or EACC. This is the preferred method of directions for the plume search.

Time Completed _____

Signature _____

EXHIBIT 2B

Dose Rate and Count Rate Instrument Op Check

Perform the following for each of the three instruments

Initials

_____ 1.0 Record instrument serial number.

_____ 2.0 Record instrument calibration due date.

_____ 3.0 Inspect instrument for physical damage.

_____ 4.0 Inspect instrument for illegible labels.

_____ 5.0 Perform a battery check.

_____ 6.0 Obtain the button source from the lead pig within the locker. Source check the instrument for response.

_____ 7.0 If the instrument fails any of the above checks, tag the instrument as bad and obtain a spare instrument. If no spare is available, contact the EAC/RAC. Document instructions in Survey Team Log.

NOTE

DOSE RATE instruments and their detector probes are calibrated as a single unit and probes must not be interchanged with other instruments.

	Dose Rate Meter	Count Rate Meter	Count Rate Meter
Serial Number			
Cal Due Date			
Physical Damage?	YES/NO	YES/NO	YES/NO
Illegible Labels?	YES/NO	YES/NO	YES/NO
Battery Check OK?	YES/NO	YES/NO	YES/NO
Source Check OK?	YES/NO	YES/NO	YES/NO

EXHIBIT 2C

DC Air Sampler Op Check

Initials

_____ 1.0 Record instrument serial number _____.

_____ 2.0 Record instrument calibration due date _____.

_____ 3.0 Physically inspect the air sampler for physical damage.

_____ 4.0 Ensure the 2 position switch (Off-Run) is in the Off position.

_____ 5.0 Unscrew the Particulate Filter, Silver Zeolite Cartridge, and "O" rings from the air sampler head, inspect "O" rings for damage.

_____ 6.0 Install a new Silver Zeolite Cartridge ensuring the arrow on the side of the cartridge points toward the air sampler.

_____ 7.0 Install a new Particulate Filter ensuring the side of the filter which has a woven appearance is nearest to the Silver Zeolite Cartridge.

_____ 8.0 Reassemble the air sample head and screw into the Air Sampler.

_____ 9.0 Connect the Air Sampler ON directly to the vehicle's battery terminals via bumper or grille.

_____ 10.0 Turn on the Air Sampler and enter the flow rate, _____lpm.

EXHIBIT 2C
(Continued)

DC Air Sampler Op Check

Initials

_____ 12.0 Turn off Air Sampler and disconnect from the vehicle.

_____ 13.0 Leave the DC air sampler in the vehicle.

_____ 14.0 If the air sampler does not pass the Op check, tag the instrument as bad and obtain a spare. If no spare is available, contact the EAC/RAC. Document instructions in the Survey Team Log. In the event that the DC air sampler is used, ensure the EAC/RAC is aware of the flow rate.

Signature _____

EXHIBIT 3

OCGS FMT Termination Checklist

Initials

_____ 1.0 Transport Field Monitoring Samples to the Offsite Sample Storage Facility, designated by the EAC. Use FRH6 key. This should be the Environmental Lab (Building No. 18) on the Forked River Site.

> NOTE
>
> For Drills and Exercises return all Field Monitoring Samples to the Environmental Controls Section for disposition.

_____ 2.0 Place signed Team Logs/Inventory Forms and Data Forms with the Field Monitoring Samples.
Turn in TLD's and completed Control Point Admission Tickets to the Dosimetry Radiological Support Group.

Contact EAC/RAC to determine where to turn in dosimetry if the center has been relocated.

> NOTE
>
> After a drill, dosimetry should be returned to the Monitoring Kit Instrument Locker.

_____ 3.0 Return vehicle to OCAB parking lot, and return keys to the point of issue.

_____ 4.0 Return all the Emergency Monitoring Equipment to the Monitoring Kit Instrument Locker.

_____ 5.0 Return hand held radio to the charging rack inside the Monitoring Kit Instrument Locker.

_____ 6.0 Complete and sign all logs and checklist. Return to Emergency Preparedness.

Time Completed _____

Signature _____

EXHIBIT 4

Conduct of a Dose rate Survey

1.0 Ensure a pre-operational check has been completed for the dose rate instrument in accordance with Exhibit 2B.

2.0 Observe Cold Weather Operations Limitation described in Exhibit 1, Step 6.0.

3.0 Switch the dose rate instrument range selector switch to the highest scale that will give the operator a mid range meter reading.

4.0 Dose rate measurement should be performed approximately one meter (1m) above the ground (waist level) outside the emergency vehicle, unless directed otherwise by the RAC.

5.0 Record the survey results on Exhibit 18, Dose Rate Survey Record.

6.0 Determine if the survey location may be within the radioactive plume and advise RAC/EAC.

6.1 IF Beta Gamma (OW) measurements are less than 110 % of the Gamma (CW) measurements,

THEN dose rate measurements indicate that the plume is elevated over and/or horizontally displaced from the survey location.

6.2 Identify on Exhibit 17, Dose Rate Survey Record, that the location is not in plume.

6.3 IF Beta Gamma (OW) measurements are equal to or greater than 110% of the Gamma (CW) measurements,

THEN dose rate measurements indicate that the plume may have touched down at the Survey locations → Take an air sample and contact the RAC/EAC.

EXHIBIT 5

Conduct of a Count Rate Survey

1.0 Don surgeons gloves and obtain smear discs and sample envelopes from the Emergency Monitoring Kit.

2.0 Record Date, Time and Survey Location on sample envelope.

3.0 Wipe smear disc on horizontal surfaces to obtain a sample of 100 cm^2.

4.0 Wipe the smear disc in a lazy S pattern approximately 16 inches long,
or
Wipe smear disc in an area of approximately 4 inches by 4 inches.

5.0 If smear samples are taken from a non-horizontal surface, provide a description of the sampled surface on the smear disc envelopes.

6.0 Determine Background Count Rate by reading count rate instrument with no sample present.

> NOTE
>
> The smear sample counting area background count rate must be less than 300 counts per minute (cpm) using a count rate instrument.

> NOTE
>
> A rough order of magnitude for Dose rate conversion to CPM is count rate (CPM) = 3000 x dose rate (mR/hr).

7.0 Record the Background counts per minute (Bcpm) on Exhibit 16, Count Rate Survey Record.

8.0 Obtain the smear Gross Count Rate.

- Place detector probe within 1/2 inch of the smear disc with the sample surface toward the detector window.
- Count the smear disc.
- If activity is indicated within 15 seconds, allow the meter indicator to stabilize before recording.
- Record the maximum smear sample Gross counts per minute (Gcpm) on Exhibit 15, Count Rate Survey Record.
- Complete the appropriate data on Exhibit 15, Count Rate Survey Record.

EXHIBIT 6

Conduct of an Air Sample

1.0 Prerequisites

- The Air Sampler shall be located in a manner that will minimize cross contamination.
- All samples shall be labeled and saved for further analysis.

2.0 Set up Air Sampler if the filter and cartridge require replacement.

- Unscrew the particulate filter and Silver Zeolite Cartridge rings from the air sampler head.
- Install a new Silver Zeolite Cartridge ensuring the arrow on the side of the cartridge points toward the air sampler.
- Install a new particulate filter ensuring the side of the filter which has a woven appearance is nearest to the Silver Zeolite Cartridge.
- Reassemble the air sampler head and screw into air sampler.

NOTE

The air sampler is calibrated with both the Particulate Filter and Silver Zeolite Cartridge in place. Both must be in place even if an iodine sample has not been requested and the Silver Zeolite Cartridge will not be analyzed in the field.

3.0 Draw a 5 minute minimum air sample at 25 lpm (20-30 lpm) as indicated on the scale if possible using a watch, stopwatch, or timer to measure the time duration unless otherwise directed by the RAC/EAC. Sample based on Rad Eng. Calc. 2820-01-004.

4.0 Obtain a general area count rate with the count rate instrument and pancake probe at approx. waist level. If the background exceeds 300 CPM move to a location where the background is less than 300 CPM.

5.0 Record air sampler run time and flow rate on the Air Sample Data Collection Envelope and Exhibit 14.

6.0 Wearing protective gloves, unscrew the filter holder section of the sampler head from the Silver Zeolite cartridge holder section such that the particulate filter is held in place in the removed section.

7.0 Remove the retainer ring from the filter holder and obtain a count rate on the particulate filter by holding the front side of the filter holder against the pancake probe. Record the count rate as Gross CPM on Air Sampler Data Collection Envelope and on Exhibit 14.

8.0 Using tweezers, remove the filter from the holder. Place the filter in an Air Sample Data Collection Envelope.

EXHIBIT 6
(Continued)

Conduct of an Air Sample

9.0 Recount the filter holder without the particulate filter in place. Enter this count rate as background CPM on the Air Sample Data Collection Envelope and on Exhibit 14.

10.0 Subtract the background cpm (Bcpm) from gross cpm (Gcpm) and record as "Net cpm" on the Air Sample Data Collection Envelopes.

11.0 Measure the contact Dose Rate and record on the Air Sample Data Collection Envelope.

12.0 Retain the sample for later analysis.

NOTE

Monitor the driver and passenger area dose rates. If any area exceeds 2.0 mR/hr, notify the RAC/EAC and request guidance.

13.0 Wearing protective gloves remove the Silver Zeolite cartridge from the sampler head and place it in an Air Sample Data Collection Envelope.

14.0 Count both sides of the Silver Zeolite cartridge through the envelope. Record the higher count rate as "Gross" on the Air Sample Data Collection Envelope and on Exhibit 14.

15.0 Subtract the background cpm (Bcpm) from the gross cpm (Gcpm) and record the result as "Net cpm" on the Air Sample Data Collection Envelope.

- Measure the contact dose rate and record on the Air Sample Data Collection Envelope
- Retain the sample for later analysis.

16.0 Establish contact with the EACC/RAC.

17.0 Transmit the data from the Air Sample Data from Exhibit 14.

EXHIBIT 7

Conduct of Noble Gas Sampling

1.0 Obtain a 500 ml bottle that was prefilled with clean water. When a sample is needed, stand well away from vehicles or other obstructions (10 ft or greater), remove the cap and pour the water from the container. Cap or close the container.

2.0 Label the sample container with the date/time of collection, and location. Record the same information in the first two columns of Exhibit 15. Write "Noble Gas" in the 3rd column and leave the other columns blank.

3.0 Retain all samples for later counting and analysis.

NOTE

Monitor the driver and passenger area dose rates. If any area exceeds 2.0 mR/hr, notify the RAC/EAC and request guidance.

EXHIBIT 8

Conduct of Soil or Snow Sampling

1.0 Soil and snow sampling shall be conducted with one team member collecting samples and the other team member providing radiation monitoring for the sample collector.

2.0 Obtain sample container and trowel from Emergency Monitoring Kit.

3.0 Label container with Time, Date, Monitoring Location, Type of Sample, and Dose rate.

Example:

Sample Label

Date _____ Time: _____

Sample Type _____

Sample Location _____

Contact Dose Rate _____mr/hr (OW) _____mr/hr (CW)

Background _____bcpm Contact count rate _____gcpm

_____
Initials

4.0 Choose a sample area free from leaves, grass and other vegetation.

5.0 Wearing protective gloves scrape approximately the top 1/2 inch of soil or snow with trowel and place into container until full. Cap container.

6.0 Perform a contact dose rate survey of container with a dose rate meter.

7.0 Record dose rate on label.

8.0 If contact dose rate is less than 0.2 mR/hr, perform a contact count rate measurement of sample container.

- Measure Background Count Rate (bcpm)
- Measure Sample Contact Count Rate (gcpm)

9.0 Complete the appropriate data on Exhibit 16.

10.0 Record the following on the sample label

- Background Count Rate bcpm
- Gross Count Rate gcpm

11.0 Save all samples for future analysis.

12.0 Surgeon's gloves should be changed after each sample is collected to prevent cross-contamination.

EXHIBIT 9

Conduct of Vegetation Sampling

1.0 Vegetation sampling shall be conducted with one team member collecting samples and the other team member providing radiation monitoring for the sample collector.

2.0 Obtain clippers and medium plastic bag from Emergency Monitoring Kit.

3.0 Label sample bag with Time, Date, Monitoring Location, Type of Sample, and Dose rate.

Example:

Sample Label

Date _____ Time: _____

Sample Type _____

Sample Location _____

Contact Dose Rate _____mr/hr (OW) _____mr/hr (CW)

Background _____bcpm Contact count rate _____gcpm

_____
Initials

4.0 Wearing protective gloves, take as large a sample of green (living) vegetation as can be fit into bag.

NOTE

Do NOT include soil, large branches or roots.

NOTE

Always collect samples that are downwind from you; i.e., wind is blowing on your back.

5.0 Place sample in bag.

6.0 Seal the bag and perform a Contact Dose Rate.

7.0 Record Dose rate on label.

EXHIBIT 9 (Continued)

Conduct of Vegetation Sampling

8.0 If contact dose rates are less than 0.2 mR/hr, perform a contact count rate measurement of sample container.

- Measure Background Count Rate (bcpm)
- Measure Sample Contact Count Rate (gcpm)

9.0 Complete the appropriate data on Exhibit 16.

10.0 Record the following on the sample label

- Background Count Rate bcpm
- Gross Count Rate gcpm

11.0 Save all samples for future analysis.

12.0 Surgeon's gloves should be changed after each sample is collected to prevent cross-contamination.

EXHIBIT 10

Conduct of Water Sampling

1.0 Water sampling shall be conducted with one team member collecting samples and the other team member providing radiation monitoring for the sample collector.

CAUTION
Use life vest when collecting water samples from bodies of water i.e. lakes, bay, ocean.

2.0 Obtain empty plastic screw-top sample bottle and a plastic bag.

3.0 Label bag with Time, Date, Monitoring Location, Type of Sample, and Dose rate.

Example:

Sample Label
Date _____ Time: _____
Sample Type _____
Sample Location _____
Contact Dose Rate _____mr/hr _____mr/hr
(OW) (CW)
Background _____bcpm Contact count rate _____gcpm
_____
Initials

4.0 Wearing protective gloves, remove cap, submerge bottle to obtain a surface sample. Take care not to disturb sediment.

CAUTION
Use caution as the bottle may now be contaminated.

5.0 Recap bottle and place in a plastic bag. Seal the bag.

6.0 Perform a Contact Dose Rate survey of the bottle through the plastic bag.

7.0 Record Dose Rate on sample label.

EXHIBIT 10 (Continued)

Conduct of Water Sampling

8.0 If contact dose rates is less than 0.2 mR/hr, perform a contact count rate measurement of sample container.

- Measure Background Count Rate bcom
- Measure Sample Contact Count Rate gcpm

9.0 Record the appropriate data on Exhibit 16.

10.0 Record the following on the sample label

- Background Count Rate bcpm
- Gross Count Rate gcpm

11.0 Save all samples for future analysis.

12.0 Surgeon's gloves should be changed after each sample is collected to prevent cross-contamination.

EXHIBIT 11

OFFSITE MONITORING POINTS

EMERGENCY SAMPLE LOCATION	N.J. STATE NO.	AZIMUTH	DISTANCE (MILES/ METERS)	LOCATION	(From OCGS Main Gate & Rt. 9) DIRECTIONS
N1	--- Crest OC-3	0°	0.65/ 1045.9	East end of old Energy Spectrum parking lot	Left onto Rt. 9, left just after intake canal, and proceed to the old site of the Energy Spectrum
N2	---	7°	1.2/ 1930.8	Intersection of Taylor Lane and Kennebec Rd.	Left onto Rt. 9, left onto Taylor Lane, proceed 0.2 mile to Kennebec Rd.
N2a	N-2 -1 Crest OC-11	2°	1.8/ 2896.2	Playground Lakeside Drive at Moose Head St.	Rt. 9 north Lakeside Drive, left onto Lakeside Dr. 3/4 miles to playground at intersection with Moose Head St.
N3	---	352°	2.5/ 4022.5	Along curb adjacent to park at intersection of Lakeside Dr. and Deer Head Lake Drive	Left onto Rt. 9 approx. 1.5 miles to Lakeside Dr., left onto Lakeside Dr. to Deer Head Lake Drive
N4	N-4 -1	354°	3.2/ 5148.8	Lacey Township Municipal Bldg. parking lot. 110 AC available	Left onto Rt. 9 to Rt. 614 (Lacey Rd.), left onto Lacey Road 1.7 miles to Lacey Township Municipal Bldg. on right
N5	N-5 -1	354°	4.21/ 6773.9	North commuter parking lot at Forked River service area on G.S. Pkwy. 110 AC available	Left onto Rt. 9 to Rt. 614 (Lacey Rd.), left onto Lacey Road to G.S. Pkwy., north on Pkwy to Forked River service area
N6	---	356.5°	4.45/ 7160	Approx. 1/3 mile west of Central Regional High School along Pinewald-Keswick Rd. at junction with G.S. Pkwy.	Left onto Rt. 9 to Rt. 614 (Lacey Rd.), left onto Lacey Rd. to G.S. Pkwy. North on Pkwy. for 2.2 miles at overpass of Pinewald-Keswick Rd. Mile Post 77.2
N10	---	3°	9.6/ 15.446	Ocean County Courthouse (EOC) Toms River, parking log. 110 AC available	Left onto Rt. 9 to Rt. 614 (Lacey Rd.), left onto Lacey Rd. to G.S. Pkwy north to Exit 81, east on Water St. for 0.5 mile to Main St., left one block to Washington St., right on Washington to 2nd left to Horner St.

EXHIBIT 11
(continued)
OFFSITE MONITORING POINTS

EMERGENCY SAMPLE LOCATION	N.J. STATE NO.	AZIMUTH	DISTANCE (MILES/ METERS)	LOCATION	(From OCGS Main Gate & Rt. 9) DIRECTIONS
N10a	---	359°	8.75/ 14.078	Left side of road before traffic light at intersection of G.S. Pkwy, Rt. 530 (Dover Rd.) and Rt.9	Left onto Rt. 9, continue left at Rt. 166 junction to G.S. Pkwy. Interchange approaching intersection of Rt. 530 (Dover Rd.), left to roadside area before intersection.
N20	N-20	351.5°	10.8/ 17,377	Rt. 37, DOT Maintenance Yard West of Mule Rd. South side Rt. 37	Left onto Rt. 9 to Rt. 614 (Lacey Rd.) to G.S. Pkwy., North to Exit 82W, 1.9 mile west to DOT Maintenance Yard on left using jug handle west of Mule Road
NNE1	--- CREST OC-6	19°	0.45/ 724.0	Rt. 9 mile mrkr 80 at O.C. intake canal	Left onto Rt. 9 to intake canal bridge at mile marker 80
NNE1a	---	23°	0.7/ 1126.3	Intersection of Biscayne Dr. and Nantucket Dr.	Left onto Rt. 9, 0.7 mile to traffic light at Beach Blvd., right on Beach Blvd. to Biscayne Dr. (1st right) to Nantucket Rd.
NNE2	NNE-2 -1	23.5°	1.7/ 2735.3	Forked River State Marina SW corner of parking lot. 110 AC available	Left onto Rt. 9, 1.6 mile to Forked River State Marina
NNE3	---	24.5°	2.5/ 4022.5	Intersection of Rt. 9 and Sunrise Blvd.	Left onto Rt. 9, 2.6 miles to Sunrise Blvd.
NNE4	---	27°	3.7/ 5953.3	Intersection of Rt. 9 and Laurel Blvd. parking lot	Left onto Rt. 9, 3.9 miles to Laurel Blvd.
NNE5	---	26°	4.6/ 7401.4	Intersection of Rt. 9 and WOBM access road	Left onto Rt. 9, 4.9 miles to WOBM radio station access road
NNE6	---	24°	5.6/ 9010.4	Rt. 9, Pinewald Substation, 0.1 miles North of Serpentine Dr.	Left onto Rt. 9, 6.2 miles on right, 0.1 miles North Serpentine Dr. at large metal utility poles
NNE6a	---	32.5°	6.8/ 10,941	Edge of Bay, Bay Blvd.	Left onto Rt. 9, 6.2 miles to Bay Blvd. east on Bay Blvd. to end of road

EXHIBIT 11

(continued)

OFFSITE MONITORING POINTS

EMERGENCY SAMPLE LOCATION	N.J. STATE NO.	AZIMUTH	DISTANCE (MILES/ METERS)	LOCATION	(From OCGS Main Gate & Rt. 9) DIRECTIONS
NNE7	NNE-7-1	23.5°	6.0/ 9654.0	Bayville First Aid, Rt. 9, Bayville, 110 AC available	Left onto Rt. 9, approx. 6.4 miles to Bayville, Rt. 9 @ Station Blvd.
NNE10	---	21.5°	7.55/ 12,148	Intersection of Rt. 9, Veeder Lane, Ocean Gate Dr. & Mill Creek Rd. parking lot	Left onto Rt. 9, 7.6 miles to multi-point intersection, just past MacDonald's to parking area near intersection on right
NNE10a	---	22.5°	8.65/ 13,918	Intersection of Chelsea Ave and Ocean Gate Drive	Left onto Rt. 9, 7.6 miles, go past MacDonald's, right on Ocean Gate Dr. to Chelsea Ave (near end)
NNE10b	---	16.5°	9.9/ 15,929	Intersection of Rt. 37 and Vaughn Ave, lot on first jug-handle exit from Rt. 37	Left onto Rt. 9 to Rt. 614 (Lacey Rd.) to G.S. Pkwy. to Rt. 37 (Exit 82) east approx. 2.9 miles to Vaughn Ave intersection right jughandle
NNE20	---	27.5°	10.5/ 16,895	Bay Bridge Inn parking lot near Rt. 37 and west end of bridge at west shore of Barnegat Bay	Left onto Rt. 9 to Rt. 614 (Lacey Rd.) to G.S. Pkwy., Exit 82, to Rt. 37 east to bridge, right into parking lot
NE1	---	47°	0.3/ 482.7	Intersection of Rt. 9 and farm road	Left onto Rt. 9, 0.2 miles to first right at farm road
NE1a	---	42°	0.9/ 1448.1	#732 Bermuda Dr. near Nantucket Rd.	Left onto Rt. 9 to first traffic light, right onto Beach Blvd. to Bermuda Dr., right to end of road. Address #732. Just past Nantucket Rd.
NE2	---	41°	1.6/ 2574.4	Captain's Inn, Lacey Rd. parking lot at rear	Left onto Rt. 9 to second traffic light, right onto Lacey Rd. to Captain's Inn (near end of road)
NE3	--- CREST OC-12	42.5°	2.4/ 3861.6	Game Farm Ocean Residential Group Center	Left onto Rt. 9, beyond second traffic light, right onto Game Farm Rd. (concrete parking lot near buildings)

EXHIBIT 11

(continued)

OFFSITE MONITORING POINTS

EMERGENCY SAMPLE LOCATION	N.J. STATE NO.	AZIMUTH	DISTANCE (MILES/ METERS)	LOCATION	(From OCGS Main Gate & Rt. 9) DIRECTIONS
NE4	---	51°	3.1/ 4987.9	End of Sail Dr. near intersection of Sunrise Blvd.	Left on Rt. 9, north 2.6 miles to Sunrise Blvd., turn right, go approx. 1.4 miles to Sail Dr. (at bend in road), left on Sail Dr.
NE5	NE-5-1	47°	4.8/ 7723.2	Laurel Blvd. Address #1063. (NJ Location #1068)	Left on Rt. 9, 3.9 miles (past 2nd traffic light) to Laurel Blvd., right on Laurel Blvd. at curve (at street light,) address #1063
NE10	---	44°	9.5/ 15,286	Intersection of Central Ave. and 14th St., Seaside Park	Left onto Rt. 9, left at 2nd traffic light onto Rt. 614 (Lacey Rd.) to G.S. Pkwy., north to Exit 82E, east onto Rt. 37 over bridge to Rt. 35 south (Central Ave), right onto Central Ave. to intersection of Central Ave. and 14th St.
NE20	---	37°	11.8/ 18,986	Near intersect-ion of Rt. 37 access road and Rt. 35 north (Central Ave.)	Left on Rt. 9, left at 2nd traffic light on Rt. 614 (Lacey Rd.) to G.S. Pkwy., north to Exit 82 east on Rt. 37, cross bridge to Rt. 35 north, exit. At first traffic light, turn right, "U-Turn" onto service rd. area
ENE1	---	70°	0.25/ 402.3	Yellow N.J. Natural Gas Co. marker approx. 100 yds. north of main entrance	Left onto Rt. 9, approx. 25 yds. South of North Gate access road on left
ENE2a	---	67°	1.15/ 1850.4	Intersection of Tampa Rd. and Sandy Hook Dr. (#701 Tampa Rd.)	Left onto Rt. 9 to 1st traffic light (Beach Blvd.), right onto Beach Blvd. to Forked River Bridge. Just over bridge turn right onto Sandy Hook Dr. to second left (Tampa Rd.)
ENE2	ENE-CREST OC-4	59.5°	1.15/ 1850.4	Beach Blvd. to left side of road after crossing Forked River Bridge	Left onto Rt. 9 to 1st traffic light (Beach Blvd.), right onto Beach Blvd. to southeast end of Forked River Bridge

EXHIBIT 11

(continued)

OFFSITE MONITORING POINTS

EMERGENCY SAMPLE LOCATION	N.J. STATE NO.	AZIMUTH	DISTANCE (MILES/ METERS)	LOCATION	(From OCGS Main Gate & Rt. 9) DIRECTIONS
ENE3	---	70°	2.3/ 3700.7	Intersection of Beach Blvd. and Tamiami Road	Left on Rt. 9 to 1st traffic light (Beach Blvd.), right onto Beach Blvd., over Forked River Bridge to next bridge (wooden) continue over bridge to right fork (Tamiami Rd.)
ENE4	---	58°	3.7/ 5953.3	Parking lot at Sunrise Beach Club	Left on Rt. 9 to Sunrise Blvd., right on Sunrise to Capstan Dr. on left. Capstan Dr. straight to Sunrise Beach Club
ENE7	---	67°	6.3/ 10,137	Island Beach State Park service area parking lot between north and south swimming area parking lots	Left onto Rt. 9 to 2nd traffic light, Rt. 614 (Lacey Rd.), left on Lacey Rd. to G.S. Pkwy. North on Pkwy. to Exit 82E, east on Rt. 37 across bridge to Rt. 35 south (Central Ave.) to Is. Beach State Park, 3.5 mi. south of park entrance gate to swimming area parking lots
ENE10	---	60°	7.35/ 11,826	Island Beach State Park, 2.5 miles south of park entrance at chained access road, on right	Left on Rt. 9 to 2nd traffic light, Rt. 614 (Lacey Road), left on Lacey Rd. to G.S. Pkwy North on Pkwy. to Exit 82E, east on Rt. 37 across bridge to Rt. 35 south (Central Ave.) to Island Beach State Park, 2.5 miles south of park entrance gate to intersection of chained access road on right
E1	--- CREST OC-7	82°	0.3/ 482.7	Opposite Main Gate on Rt. 9	Exit Main Gate onto Rt. 9
E1a	---	87.5°	0.85/ 1367.7	The Farm Area Northeast corner of dredge spoils basin	Left onto Rt. 9, right at first farm road to second left to corner of dredge spoils basin. Key for gate lock in FMT vehicle
E2	---	87°	1.6/ 2574.4	Intersection of Albatross Ct. and Orlando Dr.	Left onto Rt. 9, right at 1st traffic light to Forked River Bridge, cross bridge to Elks Club, right on Club House Dr., 4 blocks to Orlando Dr., left on Orlando Dr. to Albatross Ct. (second left)

EXHIBIT 11

(continued)

OFFSITE MONITORING POINTS

EMERGENCY SAMPLE LOCATION	N.J. STATE NO.	AZIMUTH	DISTANCE (MILES/ METERS)	LOCATION	(From OCGS Main Gate & Rt. 9) DIRECTIONS
E7	---	94.5°	5.9/ 9493.1	Old Coast Guard Station Watch Tower, Island Beach State Park 110AC	Left onto Rt. 9, left at 2nd traffic light onto Rt. 614 (Lacey Rd.) to G.S. Pkwy., north to Exit 82E, east on Rt. 37 to Rt. 35 south (Central Ave.) to Is. Beach State Park, to 7 miles south of entrance gate to station on left
ESE1	---	111°	0.3/ 482.7	Yellow marker (NJ Natural Gas Co.) 0.1 mile south of O.C. Main Gate	Right onto Rt. 9, approx. 0.1 mile south of O.C. Main Gate
ESE1a	ESE-1-1	111°	0.8/ 1287.2	Fork area formed at intersection Bay Pkwy. and Dock Ave. Willow also intersects here	Right onto Rt. 9, 0.5 mile, left on Bay Pkwy. to intersection with Willow and Dock Avenues
ESE2	--- CREST OC-14	109.5°	1.85/ 2976.7	End of Bay Pkwy. at Barnegat Bay	Right onto Rt. 9, 0.5 mile, left on Bay Pkwy. to end of street at Barnegat Bay
ESE7	---	109°	6.3/ 10,137	Island Beach State Park southern end of paved park road	Left onto Rt. 9 to 2nd traffic light, Rt. 614 (Lacey Rd.), left onto Lacey Rd. to G.S. Pkwy. North on Pkwy. to Exit 82E, east on Rt. 37 across bridge to Rt. 35 south (Central Ave) to Island Beach State Park; go 8.2 miles south of park entrance to southern end of paved road
SE1	---	126°	0.36/ 579.2	Rt. 9, south of South Access Rd., south of discharge canal bridge	Right onto Rt. 9, over discharge canal bridge, just past South Access Road
SE1a	--- OC-5	140°	0.5/ 804.5	Southeast corner of Bay Pkwy., along Rt. 9, next to residence at 2 Bay Parkway	Right onto Rt. 9, left on Bay Parkway

EXHIBIT 11

(continued)

OFFSITE MONITORING POINTS

EMERGENCY SAMPLE LOCATION	N.J. STATE NO.	AZIMUTH	DISTANCE (MILES/ METERS)	LOCATION	(From OCGS Main Gate & Rt. 9) DIRECTIONS
SE2	---	130°	1.7/ 2735.3	South end of Shore Dr. and on Barnegat Bay, Waretown	Right onto Rt. 9, approx. 0.75 mile, left onto Main St., 0.4 mile to Lighthouse Dr., left onto Lighthouse Dr. to Shore Dr., right onto Shore Dr. to end of Shore Dr.
SE7	SE-	127°	6.3/ 10,137	Across the street from the Coast Guard Station on Bayview Ave., Barnegat Light Borough	Right onto Rt. 9 to intersection of Rt. 72, east onto Rt. 72 to Long Beach Blvd., left onto Long Beach Blvd., left onto 6th St. to Bayview Ave., left onto Bayview Ave. and across the street from the Coast Guard Station
SSE2a	---	164°	1.6/ 2574.4	Waretown Vol. Fire Co.	Right onto Rt. 9, 1.6 miles, right onto Rt. 532, 1 block, building on left
SSE2	SSE-2-1	154°	1.55/ 2494.0	Area east side of Main St. and south of Skippers Blvd.	Right onto Rt. 9, 0.75 mile, left onto Main St., 0.75 mile to just past intersection with Skippers Blvd.
SSE3	SSE3 Crest OC-2	166°	1.7/ 2735.3	Township of Ocean Municipal Building Coraliss and Railroad Ave.	Township of Ocean Municipal Building parking lot Route 9 to Rout 532. West on Route 532 to Coraliss St. Left on Coraliss to Railroad Ave.
SSE4	---	164°	2.65/ 4263.9	Lagoon (BBCA Recreation Area) near Bonita Blvd.	Right onto Rt. 9, 2.2 miles, left onto Barnegat Beach Dr., 0.6 mile, right on Lagoon View Rd., 1-1/2 blocks to area on left next to lagoon
SSE10	---	153°	8.3/ 13,355	Intersection south Anchor St. with Harvey Cedars Water Stand Pipe	Right onto Rt. 9 to intersection of Rt. 72, east onto Rt. 72 to intersection of Long Beach Blvd., left onto Long Beach Blvd. to intersection of West 80th St. to intersection with S. Anchor St. and Harvey Cedars Water Stand Pipe

EXHIBIT 11

(continued)

OFFSITE MONITORING POINTS

EMERGENCY SAMPLE LOCATION	N.J. STATE NO.	AZIMUTH	DISTANCE (MILES/ METERS)	LOCATION	(From OCGS Main Gate & Rt. 9) DIRECTIONS
S2	--- CREST OC-15	184°	1.6/ 2574.4	0.7 mile west of Rt. 9 on Rt. 532	Right onto Rt. 9, right onto Rt. 532, 0.7 mile just beyond residence #172 and dirt lane
S3	S-3 -1	178°	2.3/ 3700.7	Waretown Substation	Right onto Rt. 9, 2.5 miles, 10 yards in from Rt. 9, pole No. R 144 Z, JC 83. Residence #13
S3a	---	182.5°	2.6/ 4183.4	Along Rt. 9, Waretown junction	Right onto Rt. 9, 2.9 miles, pole #BT 1545 and 4" x 4" timber with gas pipeline leakage tester attached
S4	---	176°	3.2/ 5148.8	Pebble Beach Water Tower	Right onto Rt. 9, 3.2 miles, left onto Seneca Blvd. to intersection of Eighth St. and Water Tower
S5	S-5 -1	187°	4.45/ 7160.0	Roadside area, Barnegat Service Pole #27 on East Bay Ave.	Right onto Rt. 9, 4.8 miles, left on East Bay Ave., 0.6 miles, to intersection of Lower Shore Road.
S7	---	183°	6.3/ 10,137	End of Taylor Lane at gate	Right onto Rt. 9, 6.2 miles, left onto Taylor Lane (dirt road), 1.6 miles to end of road at gate
S10	---	186°	9.65/ 15,527	Intersection of Bay Ave.	Right onto Rt. 9 to Rt. 72, east on Rt. 72 for 2.5 miles, turn left, go 0.2 mile to intersection of Bay Ave.
S20	---	169°	10.65/ 17,136	Surf City Stand Pipe	Right onto Rt. 9 to Rt. 72, east on Rt. 72 to end at Long Beach Blvd., left onto Long Beach Blvd., left onto N. 14th St. to Surf City Water Pipe on right
SSW2	---	210°	1.7/ 2735.3	Intersection of Rt. 532 and Laurelwyck Dr.	Right onto Rt. 9 to right on Rt. 532 (Wells Mills Rd.), 1.3 miles to intersection on left
SSW4	---	205.5°	3.45/ 5551.1	End of Rose Hill Rd. at cemetery	Right onto Rt. 9, 4.4 miles to right on Rose Hill Rd., one mile to cemetery

EXHIBIT 11

(continued)

OFFSITE MONITORING POINTS

EMERGENCY SAMPLE LOCATION	N.J. STATE NO.	AZIMUTH	DISTANCE (MILES/ METERS)	LOCATION	(From OCGS Main Gate & Rt. 9) DIRECTIONS
SSW5a	---	210.5°	4.5/ 7240.5	Opposite G.S. Pkwy Maintenance Area on Rt. 554, east of Garden State Parkway	Right onto Rt. 9 to third traffic light. Right on Rt. 554 (Bay Ave.) to Parkway entrance area
SSW5	---	193.5°	4.35/ 6999.2	Barnegat Township Municipal Bldg.	Right onto Rt. 9, 4.8 miles, right on Rt. 554 (Bay Ave.) 50 yards on right
SSW7	---	197°	5.8/ 9332.2	Rt. 9 and Taylor Lane	Right onto Rt. 9, 6.2 miles, left onto entrance of Taylor Lane
SSW10	---	199°	7.5/ 12,068	Southern Reg'l High School	Right onto Rt. 9, 8.2 miles, right onto parking lot north of buildings
SSW10a	---	200°	9.0/ 14,481	Entrance to Atlantic City Electric Co. substation on Rt. 9	Right onto Rt. 9, 10 miles to paved entrance of substation on left side of road
SSW20	---	201°	11.0/ 17,699	Dinner Point dr. Staffordville	Right onto Rt. 9, 11.9 miles to Staffordville, left onto Dinner Point Dr., 25 yds. on left side of road
SW2	--- CREST OC-8	221°	1.8/ 2896.2	Ocean County Cemetery on Rt. 532	Right onto Rt. 9 to first traffic light, right onto Rt. 532 (Wells Mills Rd.), 1.75 miles to cemetery
SW3	---	227.5°	2.15/ 3459.5	Intersection of Rt. 532 and G.S. Pkwy.	Right onto Rt. 9, right onto Rt. 532 (Wells Mills Rd.) to intersection with G.S. Pkwy.
SW4	SW- 4-1	219°	3.45/ 5551.1	Barnegat Toll booth on G.S. Pkwy. 110 AC	Right onto Rt. 9, right onto Rt. 532 (Wells Mills Rd.) to G.S. Pkwy. south, right side of road just beyond toll booth near telephone booth.
SW5	---	217°	4.5/ 7240.5	Parking area between 1st and 2nd Sts. west of G.S. Pkwy. exit ramp, 110 AC	Right onto Rt. 9 to Rt. 554 Bay Ave. Right onto Rt. 554 to first right after G.S. Pkwy. exit (First St.)

EXHIBIT 11

(continued)

OFFSITE MONITORING POINTS

EMERGENCY SAMPLE LOCATION	N.J. STATE NO.	AZIMUTH	DISTANCE (MILES/ METERS)	LOCATION	(From OCGS Main Gate & Rt. 9) DIRECTIONS
SW7	---	228.5°	7.2/ 11,585	Intersection of Meadow Rd. and Rt. 72 at Fawn Lakes	Right onto Rt. 9, right onto Rt. 532 (Wells Mills Rd.) to G.S. Pkwy. south; south to Exit 67 onto Rt. 554 west to 72 east to Meadow Rd. at Fawn Lakes
SW10	---	229°	8.9/ 14,320	Intersection of Hay Rd. and Micaja's Rd. NOTE: unimproved dirt road	Right onto Rt. 9, south to Rt. 72, west onto Rt. 72. Approx. 100 yds. past G.S. Pkwy. intersection to Recovery Rd. on south side of Rt. 72, right onto Hay Rd. Approx. 3 miles to Micaja's Rd.
SW20	---	214.5°	13.2/ 21,239	Intersection of Rt. 539 and G.S. Pkwy.	Right onto Rt. 9, right onto Rt. 532 to G.S. Pkwy. Take Pkwy. south to Exit 58 (Tuckerton) and make right onto Rt. 539. Park along right side of road
WSW1	--- CREST OC-9	249°	0.3/ 482.7	Southwest corner of O.C. substation, 110 AC	Right onto Rt. 9, over discharge canal bridge, right on South Access Road to substation
WSW2	---	247.5°	1.55/ 2494.0	G.S. Pkwy. picnic area	Left onto Rt. 9, left on Rt. 614 (Lacey Rd.) to G.S. Pkwy. Take pkwy. north to Forked River service area on left. Make U-turn and go south into picnic area on left at mile marker 71.5
WSW3	--- CREST OC-1	240°	2.5/ 4022.5	Ocean County Voc. School	South on Rt. 9, right on Rt. 532 0.6 mi. beyond G.S. Pkwy. on left
WSW4	WSW-4-1	251.5°	3.75/ 6033.5	Intersection of Rt. 532 and Bryant Rd.	South on Rt. 9, right onto Rt. 532, continue 4.4 miles to dirt road on right (Bryant Rd.) just before steel guard rail
WSW5	---	255°	4.35/ 6999.2	Intersection of Rt. 532 and dirt road	Right on Rt. 9, right onto Rt. 532, continue 4.85 miles to dirt road on right

EXHIBIT 11

(continued)

OFFSITE MONITORING POINTS

EMERGENCY SAMPLE LOCATION	N.J. STATE NO.	AZIMUTH	DISTANCE (MILES/ METERS)	LOCATION	(From OCGS Main Gate & Rt. 9) DIRECTIONS
WSW6	---	254°	5.3/ 8527.7	Junction Rt. 532 and Rt. 611 (Brookville Rd) opposite Southern Ocean Landfill entrance	Right on Rt. 9, right onto Rt. 532, 6 miles to junction of Rt. 611 (Brookville Rd.) on left opposite Landfill entrance
WSW10	---	252°	7.5/ 12,068	Intersection of Rt. 532 and Rt. 72	Right onto Rt. 9, right onto Rt. 532 to intersection of Rt. 72 (Barnegat Rd.)
WSW20	---	243°	11.45/ 18,423	End of Rt. 608 (Simm Place Rd.) at gate	Right onto Rt. 9, right onto Rt. 532. At intersection of Rt. 532 and Rt. 72 and Rt. 610 go straight on Rt. 610 to intersection of Rt. 539, turn left, 1 mile to Rt. 608, stop at end of road.
W2	---	270°	1.25/ 2011.3	G.S. Pkwy. right side grass area at mile marker 72.2	Left on Rt. 9 to 2nd traffic light, left on Rt. 614 (Lacey Rd.) to G.S. Pkwy. north to service area, turn south on Pkwy. to mile marker 72.2
W2a	W-2-1	269°	1.3/ 2091.7	G.S. Pkwy. picnic area at mile marker 72.1	Left onto Rt. 9 to 2nd traffic light, left on Rt. 614 (Lacey Rd.) to G.S. Pkwy. north to service area, turn south on Pkwy. to mile marker 72.1
W7	---	259°	6.7/ 10,780	0.6 mile north of Rt. 532 on Jones Rd.	Right on Rt. 9 to 1st traffic light (Rt. 532), right on Rt. 532 through intersection with Rt. 611 (Brookville Rd.) 1.2 miles to dirt access road on right (Jones Rd.), continue 0.6 mile to fork
W10	---	260°	9.15/ 14,722	Intersection of Rt. 72 (Barnegat Rd.) and Rt. 539 (Warren Grove - Whiting Rd.)	Right on Rt. 9 to Rt. 532, right on Rt. 532 to Rt. 72 (Barnegat Rd.). North on Rt. 72 to intersection with Rt. 539 (Warren Grove - Whiting Rd.)

EXHIBIT 11

(continued)

OFFSITE MONITORING POINTS

EMERGENCY SAMPLE LOCATION	N.J. STATE NO.	AZIMUTH	DISTANCE (MILES/ METERS)	LOCATION	(From OCGS Main Gate & Rt. 9) DIRECTIONS
W20	---	276°	14.0/ 22,526	Intersection of Rt. 72 (Barnegat Rd.) and Rt. 532	Right on Rt. 9 to Rt. 532, turn right onto Rt. 532 to Rt. 72 north. Approx. 7.3 miles to left fork junction with Rt. 532
WNW1	--- CREST OC-16	284°	0.6/ 965.4	Forked River Met Tower	Left on Rt. 9, first left after intake canal, travel west past the old site of the Energy Spectrum until 230V highline. Turn right onto dirt road. Unlock gate at south branch of Forked River, (key with Met Tower keys) continue across bridge and follow curve to the right. Turn right at second road (directly west of Met Tower) and continue to tower sight.
WNW2	---	291°	1.35/ 2172.2	G.S. Pkwy., right side at mile marker 72.4	Left on Rt. 9 to 2nd traffic light, left on Rt. 614 (Lacey Rd.) to G.S. Pkwy. north to service area, turn south on Pkwy. to mile marker 72.4
WNW10	---	285°	9.7/ 15,607	Rt. 539 (Warren Grove - Whiting Rd.) where it crosses over Chamberlain Brook	Right on Rt. 9 to 1st traffic light, right on Rt. 532 to Rt. 72, right on Rts. 71/532 to Rt. 539 (Warren Grove - Whiting Rd.), north on Rt. 539, approx. 3.3 miles to Chamberlain Brook
NW2	---	322.5°	1.7/ 2735.3	G.S. Pkwy. mile marker 73.0	Left on Rt. 9 to 2nd traffic light, left on Rt. 614 (Lacey Rd.) to G.S. Pkwy. north to service area, turn south on Pkwy. to mile marker 73.0
NW6	---	322°	5.95/ 9573.6	Rt. 614 (Lacey Rd.) 0.1 mile down dirt road (west of Cranberry Bog)	Left on Rt. 9 to 2nd traffic light, left on Rt. 614 (Lacey Rd.) to mile marker 7 (3.2 mi. west of G.S. Pkwy.), dirt access road on left after mile marker 7

EXHIBIT 11

(continued)

OFFSITE MONITORING POINTS

EMERGENCY SAMPLE LOCATION	N.J. STATE NO.	AZIMUTH	DISTANCE (MILES/ METERS)	LOCATION	(From OCGS Main Gate & Rt. 9) DIRECTIONS
NW10	---	314°	8.7/ 13,998	Intersection of Rt. 614 (Lacey Rd.) and Good Luck Rd.	Left on Rt. 9 to 2nd traffic light, left on Rt. 614 (Lacey Rd.) to mile marker 5 (5.3 mi. west of G.S. Pkwy.) at Good Luck Rd. intersection
NW20	---	317°	13.3/ 21,400	Town of Whiting, junction at RR tracks and Whiting - Lacey Rd.	Left on Rt. 9 to 2nd traffic light, left on Rt. 614 (Lacey Rd.), past Bamber Lake to Town of Whiting (RR tracks)
NNW3	---	340°	2.77/ 4449	G.S. Pkwy. mile marker 74.4	Left on Rt. 9 to 2nd traffic light, left on Rt. 614 (Lacey Rd.) to G.S. Pkwy., north to service area (1/2 mile) on left, enter service area, turn south on Pkwy. to mile marker 74.4
NNW4	---	348°	3.5/ 5631.5	Intersection of Rt. 614 (Lacey Rd.) and G.S. Pkwy.	Left onto Rt. 9, left at 2nd traffic light on Rt. 614 (Lacey Rd.) to intersection of G.S. Pkwy.
NNW5	---	331°	4.65/ 7481.9	Roadside at Pole #BT4112 at Rt. 614 (Lacey Rd.) at Deep Hollow Creek (intermittent stream)	Left onto Rt. 9, left at 2nd traffic light onto Rt. 614 (Lacey Rd.), 1.7 miles west of G.S. Pkwy.
NNW10	---	339°	7.9/ 12,711	Just before intersection of Pinewald - Keswick Rd. and Rt. 530 (Dover Rd.) on rt.	Left onto Rt. 9, left at Rt. 618 (Central Pkwy. opposite Butler Blvd.) to Rt. 530 (Dover Rd.)
NNW20	---	342°	12.55/ 20,193	Intersection of Rt. 37 and Northampton Rd.	Left onto Rt. 9, left at 2nd traffic light onto Rt. 614 (Lacey Rd.) to G.S. Pkwy., north to Exit 82, west on Rt. 37, 3.75 miles from Pkwy. exit, turn right to offstreet parking

EXHIBIT 12

PLUME SEARCH ROUTES

1. If the wind is from the north/northeast, proceed south from the plant on Route 9 to Route 72. West on Route 72 to Route 539 follow Route 539 north to Lacey Road, follow Lacey road to Route 9, then return to the plant on Route 9.
2. If the wind is from the south/southeast, proceed north from the plant on Route 9 to Route 530 (South Toms River), follow Route 530 to Route 539, follow Route 539 south to Route 72, follow Route 72 east to Route 554, continue east on Route 554 to Route 9 in Barnegat, follow Route 9 north to the plant.
3. If the wind is from the southwest, proceed north on Route 9 to Ocean Gate; however, DO NOT proceed to Seaside Heights/Island beach State Park until communications have been established with the EAC. Proceed to Seaside Heights and Island Beach State Park ONLY when directed to do so by EAC.
4. If the wind is from the northwest, proceed south from the plant on Route 9 to Route 72 at Manahawkin, east on Route 72 to Long Beach Boulevard on Long Beach Island, proceed north on Long Beach Boulevard to Barnegat Lighthouse State Park.

NOTE

Plume searches should be conducted while driving at no more than 30 mph. The location of the plume edges and centerline, along with the magnitude of the open and closed window readings at the plume centerline should be recorded and transmitted to the RAC/EAC. Unless otherwise directed, the plume search should be conducted with the dose rate instrument detector held outside the vehicle window.

EXHIBIT 13

OFFSITE RADIOLOGICAL/ENVIRONMENTAL SURVEY TEAM LOG

Date: _____ CHRONOLOGY OF EVENTS Team Members: _____

Team: _____ _____

TIME EVENT

_____ Called the RAC/EAC (see 3.0 for numbers) and Plant Status and MET conditions are as follows:

An (UE/A/SAE/GE) was declared at _____ on _____
(Circle One) (Time-24 Hr Clock) (Date)

There is (No) (A Controlled) (An Uncontrolled)
(Circle One)

(RADIOLOGICAL) (NON-RADIOLOGICAL) Release in Progress.
(Circle One - If Appropriate)

Wind Direction from: _____ °/Wind Speed: _____ MPH
(Compass Point)

PAGE ____ OF ____ PAGES

EXHIBIT 13
(Continued)

OFFSITE RADIOLOGICAL/ENVIRONMENTAL SURVEY TEAM LOG

CHRONOLOGY OF EVENTS

TIME	EVENT

EXHIBIT 13
(Continued)

OFFSITE RADIOLOGICAL/ENVIRONMENTAL SURVEY TEAM LOG

CHRONOLOGY OF EVENTS

TIME	EVENT

Signed: _____
Team Member

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EXHIBIT 14

Sample Record

TEAM: _____ Date: _____

#	Time	Location	SURVEY		AIR SAMPLE				
			Window Closed mR/hr	Window Open mR/hr	Background cpm	Particulate Gross cpm	Silver Zeolite Gross cpm	Flow Rate lpm	Run Time Min
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

Signed: _____
Team Member

EXHIBIT 15

COUNT RATE SURVEY RECORD

Date: _____

Team: _____

TIME 24 HR CLOCK	SAMPLE LOCATION DESCRIPTION	COUNT RATES	
		GROSS (gcpm)	BKGD (bcpm)

SIGNED: _____
Team Member

EXHIBIT 16

ENVIRONMENTAL SAMPLE

Date: _____

		DOSE RATES-MR/HR		COUNT RATE	cpm
TIME 24 HR CLOCK	SAMPLE LOCATION DESCRIPTION	OPEN WINDOW (OW) BETA - GAMMA	CLOSED WINDOW (CW) GAMMA	(bcpm) BACKGROUND	GROSS (gcpm) COUNT RATE

SIGNED: _____
Team Member

EXHIBIT 17

D O S E R A T E S U R V E Y R E C O R D

Date:_____ Team Members:_____ Instrument Cal Due Date:_____

Team:_____ _____ Instrument Beta Correction Factor:_____

TIME (24 HR CLOCK)	SAMPLE LOCATION DESCRIPTION	INSTRUMENT MODEL/SERIAL #	DOSE RATES--mR/hr		IS (ow) READING >110% OF (cw) READING?	
			OPEN WINDOW (ow) BETA-GAMMA	CLOSED WINDOW (cw) GAMMA	YES	NO

NOTE: IF (YES), THEN SURVEY LOCATION MAY BE WITHIN PLUME

TAKE AN AIR SAMPLE CONTACT RAC/EAC.

SIGNED:_____ Reviewed:_____/_____
Team Leader Rad Con Coordinator