EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 6: FIELD RADIOLOGICAL MONITORING - AMBIENT RADIATION MONITORING

Demonstrate the appropriate use of equipment and procedures for determining field radiation measurements.

NUREG REF	POINTS OF REVIEW
• I.7.,8.,11.	6.1. Did the field monitoring team have low-range survey instruments that read gamma radiation in milliroentgens per hour (mR/h) and beta plus gamma radiation in counts per minute? YES ___ NO ___ N/A ___ N/O ___ (a) If yes, specify model and range of instrument(s) used. _____ _____
I.7.,8.,11.	6.2. Did the team have high-range gamma survey instruments that cover the range from the maximum reading capacity of the low-range survey meters up to approximately 100 Roentgens per hour (R/h)]? YES ___ NO ___ N/A ___ N/O ___ (a) If yes, specify model and range of instrument(s) used. _____ _____
H.10.	6.3. Did the team have an equipment inventory list? YES ___ NO ___ N/A ___ N/O ___

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 6: FIELD RADIOLOGICAL MONITORING - AMBIENT RADIATION MONITORING

NUREG REF	POINTS OF REVIEW
	(a) Did the team check their equipment list prior to deployment to assure that none of it was missing?
	YES ___ NO ___ N/A ___ N/O ___
	(b) If equipment was missing, was replacement equipment obtained prior to deployment?
	YES ___ NO ___ N/A ___ N/O ___
	(c) Were spare batteries available?
	YES ___ NO ___ N/A ___ N/O ___
F.1.d. H.10.	6.4. Did the team perform a battery check on all equipment that requires batteries for operation?
	YES ___ NO ___ N/A ___ N/O ___
	(a) Were radio communication checks demonstrated?
	YES ___ NO ___ N/A ___ N/O ___
H.10.	6.5. Did the team check for proper operational response of each survey instrument with a radioactive check source, where appropriate, or perform an internal operational check of the survey instrument?
	YES ___ NO ___ N/A ___ N/O ___

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 6: **FIELD RADIOLOGICAL MONITORING - AMBIENT RADIATION MONITORING**

NUREG REF	POINTS OF REVIEW
	(a) Were low-range survey instruments checked for proper response to normal background radiation?
	YES ___ NO ___ N/A ___ N/O ___
	(b) If an instrument demonstrated improper operation, was backup equipment provided?
	YES ___ NO ___ N/A ___ N/O ___

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 6: FIELD RADIOLOGICAL MONITORING - AMBIENT RADIATION MONITORING

NUREG REF	POINTS OF REVIEW
H.10.	6.6. Was each survey instrument labeled with the following information? (Indicate YES, NO, N/A, or N/O in the space provided for each item.)

_____ Date of most recent calibration or date that next calibration is due

_____ For instruments with check sources, the appropriate reading (or range of readings) for the check source

_____ Calibration curve or exposure rate correction factors

(a) Record calibration date from survey instrument for each instrument used. Provide either most recent date calibrated or calibration due date.

INSTRUMENT	MOST RECENT DATE CALIBRATED	CALIBRATION DUE DATE

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 6: **FIELD RADIOLOGICAL MONITORING - AMBIENT RADIATION MONITORING**

NUREG REF	POINTS OF REVIEW
	(b) Were the calibration dates, above, within 12 months of the exercise date?
	YES ___ NO ___ N/A ___ N/O ___
I.8., J.10.a.	6.7. Did each team have a map(s) of the areas to be surveyed?
	YES ___ NO ___ N/A ___ N/O ___
	(a) If yes, were predetermined monitoring locations identified?
	YES ___ NO ___ N/A ___ N/O ___
I.11.	6.8. Was the team briefed on the following before deployment?
	(a) Plant and meteorological conditions
	YES ___ NO ___ N/A ___ N/O ___
	(b) Exposure control procedures, including use of potassium iodide (KI)
	YES ___ NO ___ N/A ___ N/O ___
	(c) Survey procedures to be followed
	YES ___ NO ___ N/A ___ N/O ___
	(d) Starting point for the radiation measurements
	YES ___ NO ___ N/A ___ N/O ___

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 6: FIELD RADIOLOGICAL MONITORING - AMBIENT RADIATION MONITORING

NUREG REF	POINTS OF REVIEW
	(e) Locations that were assigned to be monitored YES ___ NO ___ N/A ___ N/O ___
	(f) Procedures for identifying the plume edge YES ___ NO ___ N/A ___ N/O ___
	(g) Procedures for iodine sampling YES ___ NO ___ N/A ___ N/O ___
	(h) Communication of radiological data YES ___ NO ___ N/A ___ N/O ___
I.8.	6.9. Was the team provided with vehicles appropriate for local terrain and weather conditions in their deployment area? YES ___ NO ___ N/A ___ N/O ___
I.7.,8.,11. J.10.a.	6.10. Did the team consist of at least two members? YES ___ NO ___ N/A ___ N/O ___
	(a) Were at least two teams consisting of two or more members involved in field monitoring? (This information should be secured from all evaluators assigned to this objective.) YES ___ NO ___ N/A ___ N/O ___

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 6: FIELD RADIOLOGICAL MONITORING - AMBIENT RADIATION MONITORING

NUREG REF	POINTS OF REVIEW
I.7.,8.,11. J.10.a.	6.11. Did the monitoring team arrive at the assigned monitoring location without excessive delay? YES ___ NO ___ N/A ___ N/O ___
I.11 J.10.a.	6.12. List the monitoring locations where radiation measurements were taken and the time when the measurements were taken. (If applicable, attach a list of additional monitoring locations and times.) MONITORING LOCATION — TIME OF MEASUREMENT _____ _____ _____ _____ _____ _____
I.7.,8.,11.	6.13. If the plume was found, were the following readings taken at approximately waist level and near the ground (i.e., within two to three inches of the ground)? (Indicate YES, NO, N/A, or N/O in the space provided for each item). _____ Waist level -- closed window _____ Waist level -- open window _____ Near-ground level -- open window _____ Near-ground level -- closed window

EVALUATOR _____ TEAM LEADER _____ DATE _____

SITE _____ ASSIGNMENT _____ PREVIOUS ARCA? Y N

OBJECTIVE 6: FIELD RADIOLOGICAL MONITORING - AMBIENT RADIATION MONITORING

NUREG REF	POINTS OF REVIEW
	(a) If open-window readings were taken, was the open window pointed down for the near-ground-level reading? YES ___ NO ___ N/A ___ N/O ___
	(b) Were near-simultaneous exposure rate measurements taken by two or more teams to verify the edges of the plume? YES ___ NO ___ N/A ___ N/O ___
I.11.	6.14. Were measurements taken to determine the peak gamma exposure rate near or at the downwind boundary of the evacuation area? YES ___ NO ___ N/A ___ N/O ___
I.11.	6.15. Were plume traverse measurements taken to determine peak exposure rates in the downwind direction? YES ___ NO ___ N/A ___ N/O ___
	(a) Were arrangements made with the licensee monitoring teams to collect these data? YES ___ NO ___ N/A ___ N/O ___
I.8.	6.16. Were all readings logged in accordance with a predetermined format? YES ___ NO ___ N/A ___ N/O ___

EVALUATOR _____ TEAM LEADER _____ DATE _____

SITE _____ ASSIGNMENT _____ PREVIOUS ARCA? Y N

OBJECTIVE 6: FIELD RADIOLOGICAL MONITORING - AMBIENT RADIATION MONITORING

NUREG REF	POINTS OF REVIEW
I.7.,8.,11.	6.17. Did the team keep probes (detectors) enclosed in thin plastic? YES ___ NO ___ N/A ___ N/O ___
H.12. I.7.,8.,11.	6.18. At what time did the team report exposure rate measurements to the Field Team Coordinator? _____ (a) What mode(s) of communication was used? ___ Radio ___ Telephone ___ Other (Specify) _____
N.1.a.	6.19. In the implementation of the activities associated with this objective, did the organization follow its plans and procedures? YES ___ NO ___ N/A ___ N/O ___
F.1.d., H.10.,12. I.7.,8.,11. J.10.a. N.1.a	6.20. Specify whether or not the following demonstration criteria were successfully demonstrated during this exercise using YES, NO, N/A, or N/O. ___ 1. Each team had the equipment to perform field radiation measurements. (H.10., I.7.,8.,11.; PORs 6.1-6.3) ___ 2. Each team performed appropriate operational response checks of their equipment and instruments before deployment. The survey instruments were calibrated within 12 months of the exercise date. (H.10.; PORs 6.4-6.6)

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 6: **FIELD RADIOLOGICAL MONITORING - AMBIENT RADIATION MONITORING**

NUREG REF	POINTS OF REVIEW
	____ 3. Each team demonstrated proper deployment capability and procedures and promptly arrived at assigned monitoring locations. (I.7.,8.,11., J.10.a.; PORs 6.7-6.11)
	____ 4. Each team demonstrated proper field radiological monitoring procedures. (I.7.,8.,11.; PORs 6.12-6.17)
	____ 5. Each team demonstrated the capability to promptly report the radiological data collected to the Field Team Coordinator. (H.12.,I.7.,8.,11.; POR 6.18.)
	____ 6. All activities described in the demonstration criteria for this objective were carried out in accordance with the plan, unless deviations were provided for in the extent-of-play agreement. (N.1.a.; POR 6.19)

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA Y N**

OBJECTIVE 7: PLUME DOSE PROJECTION

Demonstrate the capability to develop dose projections and protective action recommendations regarding evacuation and sheltering.

NUREG REF	POINTS OF REVIEW
I.10.	7.1. Was the area(s) recommended for evacuation and sheltering plotted on a map on the basis of the following?

Initial licensee recommendations

YES ___ NO ___ N/A ___ N/O ___

Dose projections

YES ___ NO ___ N/A ___ N/O ___

(a) Were protective action recommendations (PAR) made on the basis of these data?

YES ___ NO ___ N/A ___ N/O ___

(b) To whom were the PARs made? _____

(c) At what time were the PARs made? _____

I.10. 7.2. Were source term release projections and meteorological data provided by the licensee? (Indicate YES, NO, N/A, or N/O in the space provided for each item.)

_____ Source term release projections

_____ Meteorological data

EVALUATOR _____ TEAM LEADER _____ DATE _____

SITE _____ ASSIGNMENT _____ PREVIOUS ARCA Y N

OBJECTIVE 7: PLUME DOSE PROJECTION

NUREG REF POINTS OF REVIEW

(a) If yes, did the dose assessment group make dose projections on the basis of these data?

YES ___ NO ___ N/A ___ N/O ___

(b) What method(s) did the dose assessment group use to make the initial dose projections? (Check method(s) used.)

_____ Manual calculations
_____ Computer calculations
_____ Other (Specify) _____

(c) If a computer was used as the primary means for calculating projected dose, was a backup methhod demonstrated?

YES ___ NO ___ N/A ___ N/O ___

(d) For what exposure pathway(s) were dose projections made? (Check projection(s) made.)

_____ Whole body gamma
_____ Iodine inhalation
_____ Other (Specify) _____

I.10. 7.3. Were there any significant differences (i.e., differences greater than 10-fold) between dose projections by the organization and the initial projections of the licensee?

YES ___ NO ___ N/A ___ N/O ___

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA Y N**

OBJECTIVE 7: **PLUME DOSE PROJECTION**

NUREG REF	POINTS OF REVIEW
	(a) If yes, were steps taken to resolve these differences?
	YES ___ NO ___ N/A ___ N/O ___
I.10.	7.4. Were there any changes to PARs based on dose projections by the organization?
	YES ___ NO ___ N/A ___ N/O ___
	(a) If yes, to whom were these PARs made? _____
	(b) At what time were these PARs made? _____
	(c) Was the plot(s) of the area(s) for evacuation and sheltering changed on maps or displays to show these revised PARs?
	YES ___ NO ___ N/A ___ N/O ___
I.8.,10.,11.	7.5. Were monitoring data made available to the dose assessment group(s) regarding the boundaries of the plume?
	YES ___ NO ___ N/A ___ N/O ___
	(a) If yes, when were the first data received by the dose assessment group(s)?
	_____
I.10.,11.	7.6. Was it possible for the dose assessment group(s) to identify the plume location on the basis of field monitoring data?
	YES ___ NO ___ N/A ___ N/O ___

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA Y N**

OBJECTIVE 7: PLUME DOSE PROJECTION

NUREG REF	POINTS OF REVIEW
	(a) If yes, was the plume location plotted on a map on the basis of these monitoring data?
	YES ___ NO ___ N/A ___ N/O ___
I.10.	7.7. Were PARs revised on the basis of field radiation measurements?
	YES ___ NO ___ N/A ___ N/O ___
	(a) If yes, at what time were these revisions transmitted to decision makers?
	_____
1.10.	7.8. Was the dose assessment group(s) provided with radiological data regarding maximum gamma exposure rates in unevacuated areas?
	YES ___ NO ___ N/A ___ N/O ___
	(a) If yes, when was this done and when were the first field readings (background or greater) available to the dose assessment group(s)?
	_____
	(b) Were these measurements used as a basis for additional dose projections?
	YES ___ NO ___ N/A ___ N/O ___
	(c) If yes, were earlier PARs changed on the basis of these dose projections?
	YES ___ NO ___ N/A ___ N/O ___

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA Y N**

OBJECTIVE 7: PLUME DOSE PROJECTION

NUREG REF	POINTS OF REVIEW
	(d) If yes, at what time were these revised PARs transmitted to the decision makers?
	_____
I.10.,11.	7.9. Was the dose assessment group(s) provided with radiological data regarding maximum gamma exposure rates from plume crossings by field teams in areas previously designated for evacuation?
	YES ___ NO ___ N/A ___ N/O ___
	(a) If yes, were these data from licensee or State teams?
	_____ Licensee
	_____ State
	(b) Were these measurements used as a basis for additional dose projections?
	YES ___ NO ___ N/A ___ N/O ___
	(c) If yes, were earlier PARs changed on the basis of these dose projections?
	YES ___ NO ___ N/A ___ N/O ___

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA Y N**

OBJECTIVE 7: PLUME DOSE PROJECTION

NUREG REF POINTS OF REVIEW

(d) If yes, at what time were these revised PARs transmitted to the decision makers?

TIME	PROTECTIVE ACTION RECOMMENDATION (PAR)

I.10. 7.10. Was the dose assessment group(s) provided with monitoring data regarding radioiodine and corresponding gamma exposure rate measurements in the plume?

YES ___ NO ___ N/A ___ N/O ___

(a) If yes, when were these data received by the dose assessment group(s)?

_____

(b) From how many locations was this information received?

_____

(c) Was this information used as a basis for dose projections?

YES ___ NO ___ N/A ___ N/O ___

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA Y N**

OBJECTIVE 7: PLUME DOSE PROJECTION

NUREG REF	POINTS OF REVIEW
	(d) If yes, were earlier PARs changed on the basis of these dose projections?
	YES ___ NO ___ N/A ___ N/O ___
	(e) If yes, at what time were these revised PARs transmitted to the decision makers?
	_____
I.10.	7.11. Did the dose projection group(s) calculate a conversion factor to translate the gamma exposure rate measurements from the plume into corresponding radioiodine concentrations?
	YES ___ NO ___ N/A ___ N/O ___
	(a) Were additional conversion factors calculated whenever new data became available?
	YES ___ NO ___ N/A ___ N/O ___
N.1.a.	7.12. In the implementation of the activities associated with this objective, did the organization follow its plans and procedures?
	YES ___ NO ___ N/A ___ N/O ___
I.8.,10.,11. N.1.a.	7.13. Specify whether or not the following demonstration criteria were successfully demonstrated during this exercise using YES, NO, N/A, or N/O.
	___ 1. Plume location and dose were projected through use of models, data from the field, and data supplied by the licensee and appropriate protective action recommendations were developed. (I.8.,10.,11.; PORs 7.1-7.11)

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA Y N**

OBJECTIVE 7: PLUME DOSE PROJECTION

NUREG REF	POINTS OF REVIEW
	____ 2. All activities described in the demonstration criteria for this objective were carried out in accordance with the plan, unless deviations were provided for in the extent-of-play agreement. (N.1.a.; POR 7.12)

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA Y N**

OBJECTIVE 8: FIELD RADIOLOGICAL MONITORING - AIRBORNE RADIOIODINE AND PARTICULATE ACTIVITY MONITORING

Demonstrate the appropriate use of equipment and procedures for the measurement of airborne radioiodine concentrations as low as 10^{-7} (0.0000001) microcuries per cubic centimeter in the presence of noble gases and obtain samples of particulate activity in the airborne plume.

NUREG REF	POINTS OF REVIEW
H.10. I.9.	8.1. Which of the following were available to the field team to monitor airborne radioiodine and particulate activity. (Indicate YES, NO, N/A, or N/O in the spaces provided for each item.)

NOTE: This equipment is in addition to the equipment needed in Objective 6.

_____ (a) Air sampler with flow rate indicator

_____ (b) Adsorbent filter media cartridges, either silver zeolite, silver alumina, or silver silica gel

_____ (c) Particulate filters

_____ (d) Power supply capable of operating the air sampler pump

_____ (e) Count rate instrumentation

____ Portable Geiger-Mueller counter with a thin window (e.g., 1.4 to 2.0 mg/cm^2) pancake-type detector

____ Portable sodium iodide (NaI) scintillation counter

____ Access to a mobile laboratory with appropriate counting equipment

____ Other (Specify) _____

EVALUATOR _____ TEAM LEADER _____ DATE _____

SITE _____ ASSIGNMENT _____ PREVIOUS ARCA Y N

OBJECTIVE 8: FIELD RADIOLOGICAL MONITORING - AIRBORNE RADIOIODINE AND PARTICULATE ACTIVITY MONITORING

NUREG REF	POINTS OF REVIEW
H.10.	8.2. Were the air sampler and its power supply checked for operability prior to deployment? YES ___ NO ___ N/A ___ N/O ___
H.10.	8.3. If portable instrumentation [POR 8.1.(e)] was available for field radiation measurement of airborne radioiodine, was the instrument accompanied by a check source? YES ___ NO ___ N/A ___ N/O ___ (a) Was the instrument the same type provided for in the plan? YES ___ NO ___ N/A ___ N/O ___ (b) Was the instrument checked for proper operation, including radiation response from the check source? YES ___ NO ___ N/A ___ N/O ___
H.10.	8.4. Was each item of equipment labeled with the following information? (Indicate YES, NO, N/A, or N/O in the space provided for each item.) _____ Date of most recent calibration or date that next calibration is due _____ For instruments with check sources, the appropriate reading (or range of readings) for the check source _____ Calibration curve or exposure rate correction factors, if needed

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA Y N**

OBJECTIVE 8: **FIELD RADIOLOGICAL MONITORING - AIRBORNE RADIOIODINE AND PARTICULATE ACTIVITY MONITORING**

NUREG REF POINTS OF REVIEW

(a) Record calibration date for each item of equipment used, as appropriate. Provide either most recent date calibrated or calibration due date.

ITEM OF EQUIPMENT	MOST RECENT DATE CALIBRATED	CALIBRATION DUE DATE

(b) Were the calibration dates above within 12 months of the exercise date?

YES ___ NO ___ N/A ___ N/O ___

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA Y N**

OBJECTIVE 8: FIELD RADIOLOGICAL MONITORING - AIRBORNE RADIOIODINE AND PARTICULATE ACTIVITY MONITORING

NUREG REF	POINTS OF REVIEW
I.8.	8.5. At what times and to what locations were field teams dispatched by the Field Team Coordinator to collect air and particulate samples? (If applicable, attach a list of additional sample locations and times.)

TIME **LOCATION**

_____ _____

_____ _____

_____ _____

_____ _____

I.9. 8.6. Did the field team search for a location with sufficient gamma exposure rate to take each air sample?

YES ___ NO ___ N/A ___ N/O ___

(a) What gamma exposure rate did the field team indicate would be sufficient?

Gamma exposure rate _____

(b) Were open and closed window exposure rate measurements made to confirm presence of the plume at each sample location?

YES ___ NO ___ N/A ___ N/O ___

I.9. 8.7. What flow rates were used in taking the air samples?

_____

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA Y N**

OBJECTIVE 8: **FIELD RADIOLOGICAL MONITORING - AIRBORNE RADIOIODINE AND PARTICULATE ACTIVITY MONITORING**

NUREG REF — POINTS OF REVIEW

(a) How long was the sampling time?

_____ minutes

(b) What was the volume of the air sample(s) taken?

_____ cubic feet

(c) Were gamma exposure rate measurements made at the beginning, near the middle, and at the completion of taking each air sample?

YES ___ NO ___ N/A ___ N/O ___

I.9. 8.8. Was the air sample media removed from the plume and taken to a low-background area for measurement?

YES ___ NO ___ N/A ___ N/O ___

(a) Was the air sample media purged of noble gases?

YES ___ NO ___ N/A ___ N/O ___

(b) Was a field measurement of the gross beta-gamma activity made on the particulate filter?

YES ___ NO ___ N/A ___ N/O ___

(c) Was a field measurement made of the radioactivity on the adsorbent filter cartridge?

YES ___ NO ___ N/A ___ N/O ___

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA Y N**

OBJECTIVE 8: **FIELD RADIOLOGICAL MONITORING - AIRBORNE RADIOIODINE AND PARTICULATE ACTIVITY MONITORING**

NUREG REF — POINTS OF REVIEW

(d) Did field team personnel deviate from established procedures?

YES ___ NO ___ N/A ___ N/O ___

I.8.,11. 8.9. Were gamma radiation exposure rate readings at the sampling locations, iodine and particulate sample count rate data promptly and accurately transmitted in accordance with the organizations plan?

YES ___ NO ___ N/A ___ N/O ___

(a) If the data were not promptly or adequately transmitted in accordance with the organizations plan, explain.

_____

_____

I.7.,9. 8.10. Were iodine cartridges and particulate filters bagged and labeled with time, date, location taken, identification of the individual who took them, gamma radiation exposure rate reading at the sampling location, and the field sample count rate data for particulates and radioiodines?

YES ___ NO ___ N/A ___ N/O ___

(a) For iodine cartridges and particulate filters not bagged and labeled, describe procedures used.

_____

_____

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA Y N**

OBJECTIVE 8: **FIELD RADIOLOGICAL MONITORING - AIRBORNE RADIOIODINE AND PARTICULATE ACTIVITY MONITORING**

NUREG REF	POINTS OF REVIEW
I.8.	8.11. Were the iodine cartridges and particulate filters taken to an intermediate location for transport to a designated laboratory? YES ___ NO ___ N/A ___ N/O ___ (a) If yes, identify this intermediate location/facility and the time of arrival. Location _____ Time _____
N.1.a.	8.12. In the implementation of the activities associated with this objective, did the organization follow its plans and procedures? YES ___ NO ___ N/A ___ N/O ___
H.10. I.7.,8.,9. N.1.a.	8.13. Specify whether or not the following demonstration criteria were successfully demonstrated during this exercise using YES, NO, N/A or N/O. _____ 1. Each field team had equipment for field monitoring of airborne particulates and radioiodines in the presence of noble gases. (H.10., I.9.; PORs 8.1-8.2) _____ 2. Each field team performed appropriate operational checks of their equipment and instruments before deployment. The survey instruments were calibrated within 12 months of the exercise date. (H.10.; PORs 8.3-8.4) _____ 3. Airborne radioiodine and particulate sampling procedures were followed and samples obtained. (I.8.,9.; PORs 8.5-8.7)

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA Y N**

OBJECTIVE 8: **FIELD RADIOLOGICAL MONITORING - AIRBORNE RADIOIODINE AND PARTICULATE ACTIVITY MONITORING**

NUREG REF	POINTS OF REVIEW
	_____ 4. Procedures for the field measurement of the airborne radioiodine and particulate activity were followed. (I.9.; POR 8.8)
	_____ 5. Data pertaining to the field measurements of radioiodine in air were promptly and accurately transmitted in accordance with the organizations plan. (I.8.,11.; POR 8.9)
	_____ 6. Particulate filter and iodine cartridge samples were properly bagged and labeled and promptly delivered to a designated location. (I.7,.8,.9; PORs 8.10-8.11)
	_____ 7. All activities described in the demonstration criteria for this objective were carried out in accordance with the plan, unless deviations were provided for in the extent-of-play agreement. (N.1.a.; POR 8.12)

EVALUATOR _____ TEAM LEADER _____ DATE _____

SITE _____ ASSIGNMENT _____ PREVIOUS ARCA? Y N

OBJECTIVE 9: PLUME PROTECTIVE ACTION DECISION MAKING

Demonstrate the capability to make timely and appropriate protective action decisions (PAD).

NUREG REF	POINTS OF REVIEW
J.9.	9.1. Identify (by title) the official(s) at your assigned location who made PADs.

_____

(a) Did the decision maker consult with other staff or organizations?

YES ___ NO ___ N/A ___ N/O ___

J.9. 9.2. What PADs were made and when were they made? (Types of plume PADs to be addressed include: shelter, evacuation, and use of potassium iodide (KI).

PAD#	TYPE OF PROTECTIVE ACTION	TIME	ECL
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____

J.9. 9.3. Indicate the bases for **initial PADs.** (Check as appropriate.)

____ Plant status
____ Licensee protective action recommendations (PAR)
____ Other (Specify) _____

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 9: PLUME PROTECTIVE ACTION DECISION MAKING

NUREG REF	POINTS OF REVIEW
J.9.	9.4. Were these **initial PADs** automatically made (i.e., with little or no discussion) by offsite authorities in accordance with licensee PARs for a fast-breaking emergency? YES ___ NO ___ N/A ___ N/O ___
J.9.,10.m.	9.5. Which of the following factors were considered in **subsequent PADs**? (Please indicate YES, NO, N/A, or N/O in the space provided for each item.) ___ Plant conditions and emergency classification level ___ Projected dose based on release estimates and meteorological conditions ___ Projected dose based on plant conditions and emergency action levels ___ Projected dose based on simulated field measurements and meteorological conditions ___ Protective action guides incorporated in the organization's plan ___ Shelter availability ___ Evacuation time estimates ___ Relative dose savings between evacuation and sheltering ___ Risk from evacuation ___ Weather conditions ___ Other (Specify) _____
J.9.	9.6. Was coordination with other plume emergency planning zone jurisdictions part of the protective action decision making process? YES ___ NO ___ N/A ___ N/O ___
N.1.a.	9.7. In the implementation of the activities associated with this objective, did the organization follow its plans and procedures? YES ___ NO ___ N/A ___ N/O ___

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 9: PLUME PROTECTIVE ACTION DECISION MAKING

NUREG REF	POINTS OF REVIEW
J.9.,10.m. N.1.a.	9.8. Specify whether or not the following demonstration criteria were successfully demonstrated during this exercise using YES, NO, N/A, or N/O.

_____ 1. A decision making process involving consideration of all relevant factors and all necessary coordination was utilized. (J.9.,10.m.; PORs 9.1-9.6)

_____ 2. All activities described in the demonstration criteria for this objective were carried out in accordance with the plan, unless deviations were provided for in the extent-of-play agreement. (N.1.a.; POR 9.7)

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 10: ALERT AND NOTIFICATION

Demonstrate the capability to promptly alert and notify the public within the 10-mile plume pathway emergency planning zone (EPZ) and disseminate instructional messages to the public on the basis of decisions by appropriate State or local officials.

NUREG REF	POINTS OF REVIEW
E.6.	10.1. Did the organization alert and notify the public?

YES ____ NO ____ N/A ____ N/O ____

(a) Specify the alerting and notification methods demonstrated. (Indicate YES, NO, N/A, or N/O.)

ALERT

____ Fixed siren system
____ Tone-alert radios
____ Primary route alerting
____ Backup route alerting
____ Mobile alerting units and vehicles
____ Supplementary route alerting
____ Telephone calls to individuals and institutions
____ Telecommunication devices for the deaf (TDD)
____ Other (Specify) _____

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 10: ALERT AND NOTIFICATION

NUREG REF

POINTS OF REVIEW

NOTIFICATION

____ Emergency Broadcast System (EBS) station
____ Direct broadcast to/over EBS station(s) from emergency operations center
____ Siren system with Public Address (PA) system capability
____ Mobile PA system
____ National Oceanic and Atmospheric Administration (NOAA) weather radio
____ Tone-alert radios
____ Primary route notification
____ Backup route notification
____ Supplementary route notification
____ Telephone calls to individuals and institutions
____ TDD
____ Other (Specify) _____

PRIMARY ALERTING AND NOTIFICATION

E.6. 10.2. In the table that follows on page 10-3, provide the data requested for each 15-minute alert and notification sequence for the actions specified in items (a) through (h).

(a) the emergency classification level (ECL) type [Notification of Unusual Event (NOUE), Alert, Site Area Emergency (SAE), and General Emergency (GE)] and time an ECL was declared by the licensee and (b)-(h) the corresponding times for the other steps. (Indicate N/A for steps not required to be demonstrated.)

(If more than four sequences are timed, duplicate the chart provided on page 10-3.)

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 10: ALERT AND NOTIFICATION

PRIMARY ALERTING AND NOTIFICATION

ACTION		SEQUENCE #1		SEQUENCE #2		SEQUENCE #3		SEQUENCE #4	
(a)	ECL/time declared by licensee	ECL	TIME	ECL	TIME	ECL	TIME	ECL	TIME
(b)	Time ORO received notification of ECL from licensee								
(c)	Time decision made by offsite officials (start clock)								
(d)	Time EBS message selected or prepared								
(e)	Time of coordination with other jurisdictions								
(f)	Time of activation of alert system								
(g)	Time of completion of all coordination with EBS station(s)								
(h)	Time EBS message broadcast initiated (stop clock)								

EVALUATOR _____ **TEAM LEADER** _____ **DATE** _____

SITE _____ **ASSIGNMENT** _____ **PREVIOUS ARCA? Y N**

OBJECTIVE 10: ALERT AND NOTIFICATION

NUREG REF	POINTS OF REVIEW
E.6.	10.3. Specify the time required to complete the initial (first) alert and notification sequence.

_____

(a) Was the initial alert and notification sequence completed within 15 minutes of the decision by offsite officials to alert and notify the public?

YES ____ NO ____ N/A ____ N/O ____

E.6. 10.4. Who authorized the alert and notification sequences to commence? [Identify organization(s) and official(s) by title/organization.]

_____

E.5.,7. 10.5. How were EBS messages broadcast? (Check as appropriate.)

_____ Broadcast originated from an emergency operations center (EOC)
_____ Broadcast originated from the radio station
_____ Other (Specify)_____

(a) If EBS messages were broadcast from the radio station(s), were the broadcasts simulated or actually transmitted to the public? (Check as appropriate.)

____ Simulated
____ Actually transmitted to the public

(b) Did station(s) personnel verify prior to broadcast that the messages received were from the ORO?

YES ____ NO ____ N/A ____ N/O ____

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 10: ALERT AND NOTIFICATION

NUREG REF — POINTS OF REVIEW

(c) Did the station personnel verify that they had received the correct message?

YES ___ NO ___ N/A ___ N/O ___

(d) Did the station personnel broadcast the correct message?

YES ___ NO ___ N/A ___ N/O ___

PRIMARY ROUTE ALERTING AND NOTIFICATION

NOTE: Route alerting and notification is used in lieu of other primary alerting methods (e.g., sirens) and notification methods (e.g., EBS). Provide the information and data requested below in PORs 10.6.-10.7.

E.6. 10.6. In the table that follows on page 10-6, provide the data requested for one 15-minute **initial primary route alerting and notification** sequence in items (a) through (g).

(a) the ECL type (NOUE, Alert, SAE, and GE) and time an ECL was declared by the licensee and

(b)-(g) the corresponding times for the other steps. (Indicate N/A for steps not required to be demonstrated.)

(Only one initial primary route alerting and notification sequence needs to be demonstrated and evaluated.)

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 10: ALERT AND NOTIFICATION

PRIMARY ROUTE ALERTING AND NOTIFICATION

ACTION		SEQUENCE #__	
(a)	ECL/time declared by licensee	ECL	TIME
(b)	Time ORO received notification of ECL from licensee		
(c)	Time decision made by offsite officials (start clock)		
(d)	Time emergency message selected or prepared		
(e)	Time of coordination with other jurisdictions		
(f)	Time alerting and notification initiated		
(g)	Time of completion of primary route alerting and notification (stop clock)		

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 10: ALERT AND NOTIFICATION

NUREG REF	POINTS OF REVIEW
E.6.	10.7. How and when was the primary route alerting and notification team(s) instructed to initiate this function?

How? _____

When? _____

(a) What route alerting and notification vehicle(s) [e.g., police car(s)] did you observe?

_____

(b) For the designated route evaluated, provide the following data.

TIME INITIATED	TIME COMPLETED	ELAPSED TIME
_____	_____	_____

(c) Was the primary route alerting and notification completed within 15 minutes of the decision by offsite officials to alert and notify the public?

YES ___ NO ___ N/A ___ N/O ___

(d) Did the team(s) have any difficulties in following the designated route?

YES ___ NO ___ N/A ___ N/O ___

(e) Did the team(s) have route maps?

YES ___ NO ___ N/A ___ N/O ___

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 10: ALERT AND NOTIFICATION

NUREG REF — POINTS OF REVIEW

(f) Was a PA system actually demonstrated?

YES ___ NO ___ N/A ___ N/O ___

BACKUP ROUTE ALERTING AND NOTIFICATION

NOTE: Backup route alerting and notification is used when primary alerting methods (e.g., sirens) fail. Only one backup route alerting and notification sequence needs to be demonstrated and evaluated. Provide the information and data requested below in POR 10.8.

E.5. 10.8. Was **backup route alerting and notification** demonstrated?

YES ___ NO ___ N/A ___ N/O ___

(a) How and when was the route alerting and notification team(s) instructed to initiate this backup function?

How?_____

When?_____

(b) What route alerting and notification vehicle(s) [e.g., police car(s)] was observed?

_____

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 10: ALERT AND NOTIFICATION

NUREG REF

POINTS OF REVIEW

(c) For the designated route evaluated, provide the following data.

TIME INITIATED	TIME COMPLETED	ELAPSED TIME
_____	_____	_____

(d) Was backup route alerting and notification completed within approximately 45 minutes of the decision by officials to alert and notify the public?

YES ___ NO ___ N/A ___ N/O ___

(e) Did the team(s) have any difficulties in following the designated routes?

YES ___ NO ___ N/A ___ N/O ___

(f) Did the team(s) have route maps?

YES ___ NO ___ N/A ___ N/O ___

(g) Was a PA system actually demonstrated?

YES ___ NO ___ N/A ___ N/O ___

SUPPLEMENTARY ROUTE ALERTING AND NOTIFICATION

NOTE: Supplementary route alerting and notification is used to complement primary route alerting and/or notification methods (e.g., sirens and/or EBS messages). Provide the information and data requested below in POR 10.9.

E.6. 10.9. Was **supplementary route alerting and notification** demonstrated?

YES ___ NO ___ N/A ___ N/O ___

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 10: ALERT AND NOTIFICATION

NUREG REF — POINTS OF REVIEW

(a) How and when was the route alerting and notification team(s) instructed to initiate this function?

How?_____

When?_____

(b) What supplementary route alerting and notification vehicle(s) [e.g., police car(s)] was observed?

_____

(c) Over what period of time did supplementary route alerting and notification occur?

TIME INITIATED	TIME COMPLETED	ELAPSED TIME
_____	_____	_____

ALERTING AND NOTIFICATION IN EXCEPTION AREAS

NOTE: Alerting and notification in exception areas is used in rural, low population, and recreational areas, and other areas 5 to 10 miles from nuclear power plants. Provide the information and data requested below in POR 10.10.

E.6. 10.10. Did involved organizations demonstrate the capability to disseminate an alert signal and initiate instructional messages to and exception areas within 45 minutes for the sequence specified in the pre-exercise agreement?

YES ___ NO ___ N/A ___ N/O ___

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 10: ALERT AND NOTIFICATION

NUREG REF	POINTS OF REVIEW
	(a) Over what period of time did this process occur?
	Start _____ End _____ Elapsed time _____
N.1.a.	10.11. In the implementation of the activities associated with this objective, did the organization follow its plans and procedures?
	YES ___ NO ___ N/A ___ N/O ___
E.5.,6.,7. N.1.a.	10.12. Specify whether or not the following demonstration criteria were successfully demonstrated during this exercise using YES, NO, N/A, or N/O.

_____ 1. Activities associated with primary alerting and notification sequences were completed within 15 minutes of the initial decision by authorized offsite emergency officials. (E.5.,6.,7.; PORs 10.1-10.7.)

_____ 2. Backup route alerting and notification was completed within approximately 45 minutes. (E.6.; POR 10.8.)

_____ 3. Responsible organizations used supplementary route alerting to complement primary route alerting and/or notification methods. (E.6.; POR 10.9.)

_____ 4. Responsible organizations provided an alert signal and began broadcasting an initial instructional message to exception area populations located 5 to 10 miles from the nuclear power plant within 45 minutes of the initial alert and notification decision. (If there was no exception area, this criterion does not apply.) (E.6.; POR 10.10.)

EVALUATOR _____	**TEAM LEADER** _____	**DATE** _____
SITE _____	**ASSIGNMENT** _____	**PREVIOUS ARCA? Y N**

OBJECTIVE 10: ALERT AND NOTIFICATION

NUREG REF	POINTS OF REVIEW	
	_____	5. All activities described in the demonstration criteria for this objective were carried out in accordance with the plan, unless deviations were provided for in the extent-of-play agreement. (N.1.a.; POR 10.11.)