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

Edwin I. Hatch Nuclear Plant
Emergency Implementing Procedure Revision

Ladies and Gentlemen:

In accordance with 10 CFR 50, Appendix E, Section V, Southern Nuclear Operating Company hereby submits the following revision to a Plant Hatch Emergency Implementing Procedure (EIP):

<u>EIP No.</u>	<u>Revision</u>	<u>Effective Date</u>	<u>Comments</u>
73EP-EIP-020-0S	2.2	11/12/2001	Editorial Change

By copy of this letter, Mr. L. A. Reyes, NRC Region II Administrator, will receive two copies of the revised procedures.

Should you have any questions in this regard, please contact this office.

Respectfully submitted,

A handwritten signature in cursive script that reads "Lewis Sumner".

H. L. Sumner, Jr.

CKB/eb

Enclosure: 73EP-EIP-062-0S, Operations Support Center Activation

A045

U.S. Nuclear Regulatory Commission

Page 2

November 15, 2001

cc: Southern Nuclear Operating Company (w/o)
Mr. P. H. Wells, Nuclear Plant General Manager
SNC Document Management (R-Type A02.001)

U.S. Nuclear Regulatory Commission, Washington, D.C. (w/o)
Mr. L. N. Olshan, Project Manager - Hatch

U.S. Nuclear Regulatory Commission, Region II
Mr. L. A. Reyes, Regional Administrator (with 2 copies)
Mr. J. T. Munday, Senior Resident Inspector – Hatch (w/o)

SOUTHERN NUCLEAR PLANT E.I. HATCH		DOCUMENT TYPE: EMERGENCY PREPAREDNESS PROCEDURE		PAGE 1 OF 12	
DOCUMENT TITLE: OFFSITE ENVIRONMENTAL MONITORING DURING EMERGENCIES			DOCUMENT NUMBER: 73EP-EIP-020-0S		REVISION/VERSION NO: 2.2
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1.0 **OBJECTIVE**

This procedure provides guidelines for determination of radiological conditions in the plant environs, due to a radiological release from the plant, under accident conditions.

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
2.0	APPLICABILITY	1
3.0	REFERENCES	2
4.0	REQUIREMENTS	2
5.0	PRECAUTIONS/LIMITATIONS	3
6.0	PREREQUISITES	4
7.0	PROCEDURE	4
7.1	INITIAL ACTIONS	4
7.2	MONITORING AND SURVEY ACTIONS	7
7.2.1	Dose Rate/Count Rate Surveys	7
7.2.2	Air Sampling	9
7.2.3	Soil, Vegetation and Water Sampling	11
7.3	TERMINATION OF FIELD TEAM ACTIVITIES	11
7.4	DOCUMENTATION AND RECORDS	12

2.0 **APPLICABILITY**

This procedure applies to the persons serving on External Radiological Emergency Teams (RET) and applicable Dose Assessment management personnel.

- 2.1 This procedure may be used for any declared radiological emergency, at the discretion of the Dose Assessment Manager or designee.

DOCUMENT TITLE:
OFFSITE ENVIRONMENTAL MONITORING DURING
EMERGENCIES

DOCUMENT NUMBER:
73EP-EIP-020-0S

REVISION/VERSION
NO:
2.2

- 2.2 This procedure must be used for any declared ALERT, SITE-AREA EMERGENCY OR GENERAL EMERGENCY classification associated with a release of radioactive material onsite or offsite.

3.0 REFERENCES

- 3.1 Edwin I. Hatch, Unit 1 and Unit 2 Emergency Plan
- 3.2 10AC-MGR-006-0S, Hatch Emergency Plan
- 3.3 20AC-ADM-002-0S, Quality Assurance Records Administration
- 3.4 60AC-HPX-001-0S, Radiation Exposure Limits
- 3.5 62HI-OCB-019-0S, Geiger Counter Model E-120 Operation & Calibration
- 3.6 62HI-OCB-060-0S, Operation of the Battery Powered LV Air Sampler
- 3.7 62RP-RAD-001-0S, Dosimetry Issuance & Tracking
- 3.8 62RP-RAD-008-0S, Radiation & Contamination Surveys
- 3.9 62RP-RAD-034-0S, Emergency Air Sampling Program
- 3.10 73EP-EIP-017-0S, Emergency Exposure Control
- 3.11 62HI-OCB-086-0S, R020 Ion Chamber Operation and Calibration
- 3.12 62HI-OCB-098-0S, Bicorn RSO-50E Ion Chamber Operation and Calibration
- 3.13 FULL SIZE FORMS
 - TRN-0125, External RET Checklist
 - TRN-0126, Offsite Environmental Surveys/Samples
 - TRN-0127, Environmental Air Sampling Calculation Sheet

4.0 REQUIREMENTS

4.1 PERSONNEL REQUIREMENTS

External RETs will normally be comprised of Nuclear Chemistry AND/OR Health Physics personnel; however, other qualified RET members may be assigned to a team, as necessary.

DOCUMENT TITLE:
OFFSITE ENVIRONMENTAL MONITORING DURING
EMERGENCIES

DOCUMENT NUMBER:
73EP-EIP-020-0S

REVISION/VERSION
NO:
2.2

4.2 MATERIAL AND EQUIPMENT

- 4.2.1 External RET survey kit containing equipment and material necessary to perform radiation, contamination and airborne radioactivity surveys, as specified in appropriate plant procedures.
- 4.2.2 Dosimetry deemed appropriate by Health Physics.
- 4.2.3 Protective clothing (i.e., coveralls, shoe covers, gloves) deemed appropriate, based on radiological conditions of sample location AND/OR tasks being performed.

4.3 SPECIAL REQUIREMENTS

N/A - Not applicable to this procedure

5.0 PRECAUTIONS/LIMITATIONS

5.1 PRECAUTIONS

- 5.1.1 External RET members must minimize traversing the plume area as much as practical to maintain exposure as low as reasonably achievable (ALARA).
- 5.1.2 External RET members must follow established exposure limits as outlined in 73EP-EIP-017-0S.
- 5.1.3 Significant changes in radiological conditions must be reported to the EOF as soon as practical.
- 5.1.4 Extreme care must be taken to ensure air sampler power leads are properly connected to the vehicle battery.
- 5.1.5 Precautions applicable to the handling of radioactive materials involving the potential hazards from direct radiation exposure and loose contamination apply to all samples obtained. All samples must be properly bagged prior to transporting for later analysis, as determined by the Dose Assessment Manager or designee.
- 5.1.6 All samples must be stored in rear of the survey vehicle to reduce radiation exposure and possible contamination of the External RET members.
- 5.1.7 IF approached by members of the public AND/OR press, the External RET must contact the EOF for appropriate instructions/directions to give those persons.
- 5.1.8 The External RET team captain must use discretion in determining the need for and type of protective clothing for his team, based on radiological conditions of the sample location AND/OR tasks being performed.

DOCUMENT TITLE:
OFFSITE ENVIRONMENTAL MONITORING DURING
EMERGENCIES

DOCUMENT NUMBER:
73EP-EIP-020-0S

REVISION/VERSION
NO:
2.2

5.2 LIMITATIONS

N/A - Not applicable to this procedure

6.0 PREREQUISITES

A plant emergency, drill, OR exercise must have been declared.

REFERENCE

7.0 PROCEDURE

7.1 INITIAL ACTIONS

- 7.1.1 Unless otherwise assigned or directed, all Radiological Emergency Team (RET) members will report to the Operations Support Center (OSC) upon the declaration of an ALERT OR higher emergency classification. Upon arrival at the OSC, a senior HP/Chem department representative will assign RET members to the External RET. The External RET must be dispatched from the CSC to the EOF as soon as practical.

NOTE

The most senior HP/Chem department representative will assume responsibility of supervising the External RETs until the Dose Assessment Manager OR designee arrives.

- 7.1.2 The Dose Assessment Manager or designee will assign a minimum of (2) persons per team, one of which will be designated as the team's captain. The team captain will assign each member of his team to perform certain tasks:

- Vehicle Driver
- Navigator/Communicator
- In-transit Instrument Reader/Data Recorder
- Field Sampler

DOCUMENT TITLE:
OFFSITE ENVIRONMENTAL MONITORING DURING
EMERGENCIES

DOCUMENT NUMBER:
73EP-EIP-020-0S

REVISION/VERSION
NO:
2.2

7.1.3 The team captain will ensure the following are completed prior to the team's deployment:

7.1.3.1 Obtain an External RET survey kit from the EOF Storage Room. Check the status of the kit's seal.

7.1.3.1.1 IF the External RET survey kit's seal is intact, inventory of the kit is NOT required. Obtain a copy of TRN-0125, External RET Checklist and complete section 1.1. Proceed to step 7.1.3.2.

7.1.3.1.2 IF the External RET survey kit's seal is NOT intact, the kit must be inventoried prior to departing the plant site. Obtain a copy of TRN-0125, External RET Checklist and complete section 1.2. IF necessary, replenish the kit with supplies in the EOF Storage Room. Proceed to step 7.1.3.2.

7.1.3.2 Obtain a survey vehicle for use and ensure it has an adequate amount of fuel. The Dose Assessment Manager OR designee will ensure appropriate vehicles are available for External RET use.

NOTE

Radios are the primary means of field team communications. Commercial telephone systems (i.e., cellular phones) will be the alternate means of communicating with the EOF, as necessary. Radios and cellular phones are available in the EOF Storage Room.

7.1.3.3 Obtain a radio and antenna from the EOF Storage Room and perform a communications check of the radio in the vehicle to be used. Document successful completion of the communications check in section 2.0 of TRN-0125, External RET Checklist. IF the communications check is NOT successfully completed, report the problem to the Dose Assessment Manager or designee for resolution.

NOTE

Instruments and check sources are located in the EOF Storage Room.

7.1.3.4 Perform a pre-operational check of each survey instrument AND the portable air sampler, using the applicable operation and calibration procedure for that instrument.

7.1.3.4.1 Ensure proper survey instrument response by performing a battery check AND source response check. IF the instrument is operating properly, turn off the instrument and place in the cab of the survey vehicle until ready for use.

DOCUMENT TITLE:
OFFSITE ENVIRONMENTAL MONITORING DURING
EMERGENCIES

DOCUMENT NUMBER:
73EP-EIP-020-0S

REVISION/VERSION
NO:
2.2

- 7.1.3.4.2 Connect the air sampler to the survey vehicle's battery using the provided adapters. With the vehicle running, turn on the air sampler. IF the air sampler is operating properly, turn off the instrument AND disconnect it from the vehicle's power supply adapter. Place the air sampler in the survey vehicle until ready for use.

CAUTION

EXERCISE CAUTION WHEN CONNECTING/DISCONNECTING AIR
SAMPLER TO VEHICLE'S BATTERY TO AVOID IGNITING
EXPLOSIVE GASES.

- 7.1.3.4.3 IF using a vehicle, which does not have installed adapters, connect the battery cable adapter (located in the field team kit) to the air sampler. THEN with the survey vehicle's engine running, connect the air sampler's positive cable to the vehicle's positive battery terminal AND THEN the negative cable to the vehicle frame (ground). Turn on the air sampler. IF the air sampler is operating properly, turn off the instrument AND disconnect it from the vehicle (in the reverse order stated above) AND place in the survey vehicle until ready for use.
- 7.1.3.4.4 Document successful completion of each instrument operability check in section 3.0 of TRN-0125, External RET Checklist. IF any instrument is NOT operating properly, report the problem to the Dose Assessment Manager OR designee for resolution.
- 7.1.3.5 Ensure the survey kit is placed in the survey vehicle AND the applicable items (as listed in section 4.0 of TRN-0125, External RET Checklist) are placed in the cab area of the survey vehicle for easy access by the team members.
- 7.1.3.6 Ensure each team member has appropriate dosimetry (i.e., TLD and digital alarming dosimeter) prior to leaving the EOF.

DOCUMENT TITLE:
OFFSITE ENVIRONMENTAL MONITORING DURING
EMERGENCIES

DOCUMENT NUMBER:
73EP-EIP-020-0S

REVISION/VERSION
NO:
2.2

7.1.4 Prior to leaving the EOF, each team will be briefed by the Dose Assessment Manager or designee. A logbook is available in each survey kit to log briefing information. Items discussed in the briefing must include, but are NOT limited to the following topics:

- Emergency Classification declared
- Plant Status
- Meteorological conditions
- Probable survey locations
- Expected dose rates/locations
- Protective Actions Recommendations (PARs) and affected sectors

7.1.5 The team captain will ensure the External RET Checklist is turned in to the Dose Assessment Manager OR designee before leaving the EOF. When dispatched, the team will proceed to the area specified by the Dose Assessment Manager OR designee.

7.2 MONITORING AND SURVEY ACTIONS

7.2.1 Dose Rate/Count Rate Surveys

CAUTION

CHOICE OF SURVEY INSTRUMENTS IS CRITICAL FOR
EARLY DETECTION OF THE PLUME. USE OF COUNT
RATE OR LOW RANGE DOSE INSTRUMENTATION IS
RECOMMENDED FOR EARLY PLUME DETECTION.

7.2.1.1 Turn on appropriate survey instrument(s) (E-120 OR equivalent AND/OR, RO-20 OR equivalent). Make frequent observations of meter readings while in transit to sample location OR while traversing the plume. Position instruments for continuous viewing AND ready access for recording readings.

DOCUMENT TITLE:
OFFSITE ENVIRONMENTAL MONITORING DURING
EMERGENCIES

DOCUMENT NUMBER:
73EP-EIP-020-0S

REVISION/VERSION
NO:
2.2

CAUTION

MINIMIZE TRAVERSING THE PLUME AS MUCH AS
POSSIBLE TO MAINTAIN THE TEAM'S DOSE ALARA.

- 7.2.1.2 Record observed readings in the team's log book AND, IF possible, on the 10 mile EPZ map. IF any indication of the plume is detected, record the time entering and exiting the plume, as indicated by survey instrument readings in the logbook. Report the appropriate information, including each time the plume is traversed, to the EOF.

CAUTION

REPORT SIGNIFICANT CHANGES IN RADIOLOGICAL
CONDITIONS TO THE EOF AS SOON AS POSSIBLE.

- 7.2.1.3 Upon arrival at a sample location, perform a dose rate AND count rate survey as follows:

- 7.2.1.3.1 Determine open (beta + gamma radiation) AND closed (gamma radiation) window readings using an RO-20 or equivalent dose rate instrument AND the appropriate operation and calibration procedure for the instrument used. Hold the instrument horizontally at waist level to obtain waist level readings AND horizontally approximately 2 inches above ground to obtain 2-inch readings. Record results on TRN-0126, Offsite Environmental Surveys/Samples.
- 7.2.1.3.2 Determine the net counts per minute (cpm) using an E-120 or equivalent count rate instrument AND the appropriate operation and calibration procedure for the instrument used. Hold the instrument horizontally at waist level to obtain waist level readings AND horizontally approximately 2 inches above ground to obtain 2-inch readings. Record the results on TRN-0126, Offsite Environmental Surveys/Samples.
- 7.2.1.3.3 Upon completion of survey, report all survey results to the EOF.

DOCUMENT TITLE:
OFFSITE ENVIRONMENTAL MONITORING DURING
EMERGENCIES

DOCUMENT NUMBER:
73EP-EIP-020-0S

REVISION/VERSION
NO:
2.2

7.2.2 Air Sampling

When directed by Dose Assessment Manager or designee, take an air sample at designated location as follows:

NOTE

Silver Zeolite (AgZ) cartridges are provided for use in actual emergency air sampling. Charcoal cartridges are provided for use in drills/ exercises.

- 7.2.2.1 Load an air sampler head with both a particulate filter AND appropriate sample cartridge. Install the loaded air sampler head in the air sampler.

CAUTION

EXERCISE CAUTION WHEN
CONNECTING/DISCONNECTING AIR SAMPLER TO
VEHICLE'S BATTERY TO AVOID IGNITING EXPLOSIVE
GASES.

- 7.2.2.2 Connect the air sampler to the survey vehicle's battery using the provided adapters. IF using a vehicle, which does not have installed adapters, connect the battery cable adapter (located in the field team kit) to the air sampler. Connect the air sampler positive cable to the vehicle's positive battery terminal, THEN, connect the air sampler's negative cable to the vehicle's frame (ground).

NOTE

Run the survey vehicle's engine for the duration of air sampling to avoid depleting the vehicle's power supply.

- 7.2.2.3 IF possible, point the air sampler into the direction of the wind. Do NOT place the air sampler on the ground. IF possible, place the air sampler on the vehicles bumper or edge of grill. With the vehicle's engine running, turn on the air sampler. Record the "START" time AND instrument flow rate on TRN-0127, Environmental Air Sample Calculation Sheet.

DOCUMENT TITLE: OFFSITE ENVIRONMENTAL MONITORING DURING EMERGENCIES	DOCUMENT NUMBER: 73EP-EIP-020-0S	REVISION/VERSION NO: 2.2
---	-------------------------------------	--------------------------------

- 7.2.2.4 Allow the air sampler to run for 10 minutes, or as directed by the Dose Assessment Manager or designee.
- 7.2.2.5 When sampling is complete, turn off the air sampler AND record the air sampler "STOP" time on TRN-0127, Environmental Air Sampling Calculation Sheet.
- 7.2.2.6 Disconnect the air sampler, reverse of the order stated in step 7.2.2.2.

NOTE

Notify the EOF IF conditions warrant moving to a low background area (<200 cpm) to count air sample.

- 7.2.2.7 IF NOT in a low background area, proceed to a low background area prior to counting the air sample filter and cartridge.
- 7.2.2.8 Determine the results of the air sample as follows:
- 7.2.2.8.1 Connect the E-120 or equivalent count rate instrument to the HP-210 probe provided in the survey kit. Insert the HP-210 probe into the sample holder (SH-4A or equivalent sample holder) AND determine the background cpm.
- 7.2.2.8.2 Don protective gloves AND THEN remove the sample cartridge AND particulate filter from the sampler head.
- 7.2.2.8.3 Place the particulate filter in the sample holder AND obtain the gross cpm. Upon completion, place the particulate filter in an air sample envelope.
- 7.2.2.8.4 Place the sample cartridge in a plastic bag. Place the detector probe against the sample cartridge AND obtain the gross cpm.
- 7.2.2.8.5 Determine and record the results of the airborne AND iodine concentrations of the samples using the gross airborne AND iodine concentration equations on TRN-0127, Environmental Air Sampling Calculation Sheet.
- 7.2.2.8.6 Determine and record the thyroid dose rate using the thyroid dose rate equation on TRN-0127, Environmental Air Sampling Calculation Sheets.

DOCUMENT TITLE:
OFFSITE ENVIRONMENTAL MONITORING DURING
EMERGENCIES

DOCUMENT NUMBER:
73EP-EIP-020-0S

REVISION/VERSION
NO:
2.2

7.2.2.8.7 Label the air sample envelope AND the sample cartridge plastic bag with the following information:

- Date
- Sample location
- Sample start/stop times
- Dose rate/count rate of the sample
- Sample flow rate (LPM)

7.2.2.8.8 Store the sample cartridge and particulate filter for return to the EOF.

7.2.3 Soil, Vegetation and Water Sampling

When directed by the Dose Assessment Manager or designee, obtain soil, vegetation AND/OR water samples in designated areas as follows:

- 7.2.3.1 Locate an area of bare soil. Using a small scoop, collect a representative sample of surface soil from an area approximately 1 meter by 1 meter, to a depth of approximately 1/2 to 1/4 inches. Place the sample in a plastic bag. Close the bag AND label with the sample location and the date/time of sampling.
- 7.2.3.2 Locate vegetation, which may be ingested by grazing animals, IF possible. Using scissors, cut vegetation approximately 2 inches above ground AND fill a plastic bag with the vegetation. Close the bag AND label with the sample location and the date/time of sampling.
- 7.2.3.3 Locate surface water, which may be ingested by grazing animals, IF possible. Fill a poly bottle with surface water. Close the bottle and place in a plastic bag. Close the bag AND label with the sample location and the date/time of sampling.
- 7.2.3.4 Record the type of sample obtained, sample location, date and time of sampling on TRN-0126, Offsite Environmental Surveys/Samples.

7.3 TERMINATION OF FIELD TEAM ACTIVITIES

- 7.3.1 When directed, return to the EOF. Upon arrival at the EOF, the vehicle AND each team member must be surveyed. Notify the EOF via available communications equipment IF any detectable contamination (> 1000 dpm/probe area) is found AND proceed as directed.

DOCUMENT TITLE: OFFSITE ENVIRONMENTAL MONITORING DURING EMERGENCIES	DOCUMENT NUMBER: 73EP-EIP-020-0S	REVISION/VERSION NO: 2.2
---	-------------------------------------	--------------------------------

7.3.2 Prior to being relieved of field team activities, each field team will :

7.3.2.1 Submit all samples to the Dose Assessment Manager or designee for handling AND/OR possible further analysis.

7.3.2.2 Properly dispose of any radwaste ,which was generated.

7.3.2.3 Debrief with the Dose Assessment Manager or designee. The debriefing will include, but is NOT limited to the following topics:

- Team member's exposure
- Unusual circumstances or routes encountered
- Subsequent duty schedule (IF return to duty is anticipated, phone number where team members may be reached)

7.3.2.4 Replenish the field team kit with items, which have been used. Materials to replenish the field team kits may be obtained from the EOF Storage Room or the Warehouse, as necessary.

7.3.2.5 Submit all completed data sheets AND the team's 10 mile EPZ survey map to the Dose Assessment Manager or designee for review and approval.

7.4 DOCUMENTATION AND RECORDS

Records generated during actual emergencies will be maintained in accordance with 20AC-ADM-002-0S, Quality Assurance Records Administration.