June 1, 1982
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CC-16
June 1982
Revision 0

Corporate Command Center

Emergency Plan Implementing Procedure

EPIP: CC-16

TITLE: THE ENVIRONMENTAL DIRECTOR

Prepared by: L. A. Liteneki Date: 6-23-82

Reviewed by: J. E. Pajowski Date: 6-23-82

Approved by: RA Hasser Date: 6.23.82

#8258A

THE CCC ENVIRONMENTAL DIRECTOR

A. PURPOSE

The purpose of this procedure is to assist the Environmental Director in fulfilling the functions assigned to him in the GSEP.

B. REFERENCE

1. The Generating Stations Emergency Plan and Telephone Directory.

2. Emergency Plan Implementing Procedures of the Offsite GSEP Organization (CCC and EOF series EPIP's).

C. PREREQUISITES

1. Training sufficient to perform the duties.

D. PRECAUTIONS

None

E. LIMITATIONS AND ACTIONS

1. A working knowledge of the Environmental Director (ED series) procedures and the Environs Group (EG series) procedures. Actions should be taken in accordance with the guidance set forth in the procedures.

F. PROCEDURE

1. Responsibility - The Environmental Director is responsible for: (1) directing all Commonwealth related environmental sampling activities; (2) interfacing with the State of Illinois with regard to radiological matters; and (3) advising the Corporate Command Center Director on hazardous materials, including radioactivity, affecting plant personnel and the public.

2. Duties -

   a. Direct the environmental sampling activities of the Environs Director.
   b. Coordinate the environmental contractor's assistance in the collection of environmental data.
   c. Cooperate with the Illinois Department of Nuclear Safety, in the implementation of an offsite dose assessment program.

F. PROCEDURE (Continued...)

d. After activation of the EOF, or CCC and when the Environs Teams have been dispatched, update the appropriate State and Federal authorities at 15-minute intervals or as soon as possible when field conditions are reported to have changed significantly.

1) Direct the information to be relayed to a staff communicator whose primary duty is to update the State and Federal agencies.

2) Provide a phone which can be used primarily by the communicator to update the State and Federal agencies.

e. Based on environmental sampling or known plant release, calculate projected dose values for affected areas; based on these projections, advise the CCC Director of protective action recommendations for plant personnel and members of the public. These recommendations should be consistent with Tables 6.3-1, 6.3-2 and 6.3-3 of this plan.

f. Maintain a record of the GSEP related activities.

g. Obtain information and perform activities at the Corporate Environmental Center at the direction of the Environmental/Emergency Coordinator.

G. CHECKLISTS

1. Attachment A - GSEP Guidelines for Recommended Offsite Protective Actions for Gaseous Plume Exposure (Table 6.3.1 of the GSEP).

2. Attachment B - GSEP Guidelines for Protection Against Ingestion of Contamination for the Offsite Public (Table 6.3.2 of the GSEP).

3. Attachment C - Summary of Possible Offsite Protective Actions to be Recommended or Implemented during and Emergency (Table 6.3.3 of the GSEP).

H. TECHNICAL SPECIFICATION REFERENCES

None

SUGGESTED REVISION TO
GSEP T[illegible] 6.3-1
(2)

Recommended Protective Actions For Gaseous Release

Accident Classification	Release Situation (NARS Form Section 6)	Actual Projected Doses (Rem)** in Zonal Areas X, Y, & Z. Whole Body X	Y	Z	Thyroid X	Y	Z	Containment Radiation Level (R/Hr) When no Projected Doses are Available	Recommended Protective Actions (S-Shelter, E-Evacuation, P - Prepare for Possible action, I.O.- info only) X	Y	Z	NARS Form Section 8
1. Unusual Event	6.A - No Release	(1) 0	0	0	0	0	0	NORMAL CONTAINMENT RAD.	I.O.			(1) 8.A
	6.B or E - Potential or Stopped	(2) <0.5	M	M	<2.5	M	M	<200	I.O.			(2) 8.A
	6.C or D - Imminent or Occurring	(3) <0.5	M	M	<2.5	M	M	<200	I.O.			(3) 8.A
2. Alert	6.A - No Release	(1) 0	0	0	0	0	0	NORMAL CONTAINMENT RAD.	I.O.			(1) 8.A
	6.B or E - Potential or Stopped	(2) <0.5	M	M	<2.5	M	M	<200	I.O.			(2) 8.A
		(3) <1.0	<0.5	M	<5.0	<2.5	M	200 - 400	(P)	P)	P)	(3) 8.B
	6.C or D - Imminent or Occurring	(4) Analysis Not Complete						<200	I.O.			(4) 8.A
		(5) Analysis Not Complete						200 - 400	(P)	P)	P)	(5) 8.B
		(6) <1.0	<0.5	M	<5.0	<2.5	M		(P)	P)	P)	(6) 8.B
3. Site Emergency	6.A - No Release	(1) 0	0	0	0	0	0	NORMAL CONTAINMENT RAD.	(P)	P)	P)	(1) 8.B
	6.B or E - Potential or Stopped	(2) All Dose Situations			All Dose Situations			<2000	(P)	P)	P)	(2) 8.B
	6.C or D - Imminent or Occurring	(3) Analysis Not Complete						<400	(P)	P)	P)	(3) 8.B
		(4) Analysis Not Complete						400 - 2000	(S)	P)	P)	(4) 8.C&D
		(5) <1.0	<0.5	M	<5.0	<2.5	M		(P)	P)	P)	(5) 8.B
		(6) >1.0	<1.0	M	>5.0	<5.0	M		(E*)	S*)	P)	(6) 8.C,H&E
		(7) >1.0	>1.0	<1.0	>5.0	>5.0	<5.0		(E*)	E*)	S)	(7) 8.C,H,I,&F

Foot Notes:

The symbol ( ))) represents the entire 0-2 mile area, and the 2-5 and 5-10 mile three downwind sectors.

R- Range (Miles)
SB-Site Boundary
M- Minimal

* Evacuation, when noted, is the recommended protective action only when weather conditions permit and an evacuation time analysis confirms it as the preferred choice, otherwise sheltering is the protective action to recommend. If evacuation is recommended for zonal areas Y and Z and if Zonal areas Y and Z are in Wisconsin or Iowa, then the recommendation for evacuation should extend only to the range at which the projected dose is 1 Rem WB or 5 Rem thyroid, whichever is the greater range. Sheltering is the protective action from this range out to 5 miles if the "range" is in Zone Y and out to 10 miles if it is in Zone Z..

** Projected actual doses are based on the actual or most likely release point and the existing site meteorological conditions. The zones X,Y, and Z are: X- SB ≤ R < 2 Miles; Y- 2 ≤ R < 5 Miles; Z- 5 ≤ R < 10 Miles.

ATTACHMENT A

SUGGESTED REVISION TO
GSEP [illegible] 6.3-1
([illegible] 2)

Recommended Protective Actions For Gaseous Release

Accident Classification	Release Situation (NARS Form Section 6)	Actual Projected Doses (Rem)** in Zonal Areas X, Y, & Z. Whole Body X	Y	Z	Thyroid X	Y	Z	Containment Radiation Level (R/Hr) When no Projected Doses are Available	Recommended Protective Actions (S-Shelter, E-Evacuation, P - Prepare for Possible action, I.O.- info only) X	Y	Z	NARS Form Section 8
4. General Emergency	6.A - No Release	(1) NOT APPLICABLE TO GENERAL EMERGENCY										
	6.B or E - Potential or Stopped	(2) All Dose Situations			All Dose Situations			>0	(S)	S)	P)	(2) 8.C,D & E
	6.C or D - Imminent or occurring	(3) Analysis not complete						>0	(E*)	S)	P)	(3) 8.C,H & E
		(4) <1.0	<0.5	M	<5.0	<2.5	M		(S)	S)	P)	(4) 8.C,D & E
		(5) >1.0	<1.0	M	>5.0	<5.0	M		(E*)	S)	P)	(5) 8.C,H & E
		(6) >1.0	>1.0	<1.0	>5.0	>5.0	<5.0		(E*)	E*)	S)	(6) 8.C,H,I&P
		(7) >1.0	>1.0	>1.0	>5.0	>5.0	>5.0		(E*)	E*)	E*)	(7) 8.C,H,I &J

Foot Notes:

The symbol ( ))) represents the entire 0-2 mile area, and the 2-5 and 5-10 mile three downwind sectors.

R- Range (Miles)
SB-Site Boundary
M- Minimal

* Evacuation, when noted, is the recommended protective action only when weather conditions permit and an evacuation time analysis confirms it as the preferred choice, otherwise sheltering is the protective action to recommend. If evacuation is recommended for zonal areas Y and Z and if Zonal areas Y and Z are in Wisconsin or Iowa, then the recommendation for evacuation should extend only to the range at which the projected dose is 1 Rem WB or 5 Rem thyroid, whichever is the greater range. Sheltering is the protective action from this range out to 5 miles if the "range" is in Zone Y and out to 10 miles if it is in Zone Z..

** Projected actual doses are based on the actual or most likely release point and the existing site meteorological conditions. The zones X,Y, and Z are: X- SB ≤ R < 2 Miles; Y- 2 ≤ R < 5 Miles; Z- 5 ≤ R < 10 Miles.

ATTACHMENT A

TABLE 6.3-2

GSEP GUIDELINES FOR PROTECTION AGAINST INGESTION OF CONTAMINATION FOR THE OFFSITE PUBLIC

FOOD AND WATER CONTAMINATION

A. Derived Response Levels

		Preventive Action Levels*		
Nuclide**	Critical Organ	Milk/Water***	Total Intake via All Food and Water Pathways	Pasture Grass (Fresh weight)
I-131	Thyroid	0.012 uCi/l	0.09 uCi	0.27 uCi/kg
Cs-137	Whole Body	0.34 uCi/l	7 uCi	3.5 uCi/kg
Sr-90	Bone	0.007 uCi/l	0.2 uCi	0.7 uCi/kg
Sr-89	Bone	0.13 uCi/l	2.6 uCi	13 uCi/kg

*The preventive derived response action levels relate to a 1.5 rem projected dose commitment to the thyroid or to a 0.5 rem projected dose commitment to the whole body, bone, or any other organ. Emergency action levels are equal to ten (10) times the preventive levels and relate to either a 15 rem projected dose commitment to the thyroid or a 5 rem projected dose commitment to the whole body, bone, or any other organ.

**If other nuclides are present, use Regulatory Guide 1.109 to calculate the dose commitment to the critical organ(s). Infants are considered to be the critical segment of the population.

B. Recommended Protective Actions

Preventive Level Exceeded

- For pasture; remove lactating dairy cows from contaminated pasturage and substitute uncontaminated stored feed. Also, a substitute source of uncontaminated water.
- For milk; withhold milk from market to allow radioactive decay. Consider diversion of fluid milk for production of butter or evaporated milk.
- For fruits and vegetables; wash, brush, or scrub to remove contamination. Allow radioactive decay through canning, dehydration, or storage.
- For grains; mill and polish.

Emergency Level Exceeded

- Isolate food containing radioactive contamination to prevent its introduction into commerce and determine whether condemnation or another disposition is appropriate. Before taking this action, consider:

  --Availability of other possible actions;
  --Importance of particular foods in nutrition; and
  --Time and effort required to take action.

***The preventive action levels apply to water as well as milk; the protective action for water would be to use a suitable source of uncontaminated water.

ATTACHMENT B

TABLE 6.3-3
SUMMARY OF POSSIBLE OFFSITE PROTECTIVE ACTIONS
TO BE RECOMMENDED OR IMPLEMENTED DURING AN EMERGENCY+

ACCIDENT PHASE	EXPOSURE PATHWAY	EXAMPLES OF ACTION TO BE RECOMMENDED
[1]EMERGENCY PHASE (0.5 to 30 hours)*	Inhalation of gases, radioiodine, or particulate	Evacuation, shelter, access control, respiratory protection, prophylaxis (thyroid protection)
	Direct whole body exposure	Evacuation, shelter, access control
[2]INTERMEDIATE PHASE (30 hours to 30 days)*	Ingestion of milk	Take cows off pasture, prevent cows from drinking surface water, discard contaminated milk, or divert to stored products such as cheese
	Ingestion of fruits and vegetables	Wash all produce, or impound produce, delay harvest until approved, substitute uncontaminated produce
	Ingestion of water	Cut off contaminated supplies, substitute from other sources, filter, demineralize
	Whole body exposure and inhalation	Relocation, decontamination, access control
[3]LONG TERM PHASE (over 30 days)*	Ingestion of food and water contaminated from the soil either by resuspension or uptake through roots	Decontamination, condemnation, or destruction of food; deep plowing, condemnation, or alternate use of land
	Whole body exposure from deposition material or inhalation of resuspended material	Relocation, access control, decontamination, fixing of contamination, deep plowing

[1]Emergency phase - Time period of major release and subsequent plume exposure.

[2]Intermediate phase - Time period of moderate continuous releases with plume exposure and contamination of environment.

[3]Long Term Phase - Recovery period.

*"Typical" Post-accident time periods.

+Reference: USEPA "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," 1975.

ATTACHMENT C

EOF-3
Revision 3
June 1982

GSEP CORPORATE COMMAND CENTER EMEGENCY PLAN IMPLEMENTING PROCEDURE

EPIP: EOF-3

Title: The Environmental/Emergency Coordinator

Prepared by: L A. Literski Date: 6-23-82

Reviewed by: J.E. Pyrowski Date: 6-23-82

Approved by: R.A. Fessler Date: 6.23.82

#4814A

ENVIRONMENTAL/EMERGENCY COORDINATOR

A. PURPOSE:

The purpose of this procedure is to assist the Environmental/Emergency Coordinator in fulfilling the responsibilities assigned in the GSEP.

B. REFERENCES:

1. The Generating Stations' Emergency Plan and Telephone Directory.
2. The GSEP Environmental Director Emergency Plan Implementing Procedures.
3. The Environs Group Procedures.

C. PREREQUISITES:

1. The Environmental/Emergency Coordinator will designate an individual to fulfill the duties of Environmental Director at the CCC.

D. PRECAUTIONS:

1. None.

E. LIMITATIONS AND ACTIONS:

1. None.

F. PROCEDURE:

1. Responsibilities -
   The Environmental/Emergency Coordinator is responsible for coordinating and managing the activities associated with radiological consequence assessment, for operating the Emergency Control Center at the Nearsite EOF and for serving as the official contact with State and Federal radiological assessment personnel.
2. Duties -
   a. Direct a staff to include a communicator to the Corporate Command Center; a communicator to Illinois and Iowa or Wisconsin agencies; and a computer systems representative.
   b. Establish communications with the Corporate Environmental Center, the Onsite TSC, and/or the Nearsite EOF Recovery Center and obtain information on the accident conditions, meteorological conditions, and estimates of radioactive material releases.

2. Duties - (Continued...)

c. Establish communications with offsite authorities, especially the Department of Nuclear Safety RAFT (located near the site) and REAC (Springfield) facilities, and relay information necessary for the respective authorities to implement their emergency plans.

d. Coordinate the activities of the Environs Director (nearsite) and the Environmental Director at the CCC. Coordinate the activities of environmental contractors.

e. Make sure the Environs Director has established communication with Illinois DNS Rapid Assistance Team (RAT) if a team was dispatched. Provide vehicle (and drivers with appropriate protective equipment and personnel dosimetry) if requested by DNS to support State field activities.

f. Interpret radiological data and periodically update the Onsite TSC, Recovery Center, and offsite authorities of real time measurements and projected radiological exposure. Update the appropriate state and Federal authorities at 15-minute intervals or as soon as possible when field conditions are reported to have changed significantly. These updates will be carried out by the Environmental Director in the CCC, after the activation of the EOF or CCC and when the Environs Teams have been dispatched.

1. Direct the information to be relayed to a staff communicator whose primary duty is to update the state and Federal agencies.

2. Provide a phone which can be used primarily by the communicator to update the state and Federal agencies.

g. Based upon calculated dose projections, make recommendations for protective actions offsite consistent with Checklists 1,2, and 3 of this procedure.

h. Establish a schedule of personnel assignments for all environmental and offsite health physics positions. If 24-hour shift coverage is required, refer to Attachement E which is a suggested shift manning schedule for four or five person rotation. Use of the schedule is optional.

i. Maintain a record of the GSEP related activities. Refer to Attacchment D.

G. CHECKLISTS:

1. Attachment A - GSEP Guidelines for Recommended Offsite Protective Actions for Gaseous Plume Exposure (Table 6.3-1 of the GSEP).

2. Attachment B - GSEP Guidelines for Protection Against Ingestion of Contamination for the Offsite Public (Table 6.3-2 of the GSEP).

G. CHECKLISTS: (Continued..)

3. Attachment C - Summary of Possible Offsite Protective Actions to be Recommended or Implemented During an Emergency (Table 6.3-3 of the GSEP).
4. Attachment D - Environmental/Emergency Coordinator's Checklist.
5. Attachment E - Schedule for Recovery Group Shift Manning.
6. Attachment F - Environmental Organization.

H. TECHNICAL SPECIFICATION REFERENCES:

1. None.

SUGGEST[illegible]EVISION TO
GSEP Table 6.3-1
(2)

Recommended Protective Actions For Gaseous Release

Accident Classification	Release Situation (NARS Form Section 6)		Actual Projected Doses (Rem)** in Zonal Areas X, Y, & Z. Whole Body X	Y	Z	Thyroid X	Y	Z	Containment Radiation Level (R/Hr) When no Projected Doses are Available	Recommended Protective Actions (S-Shelter, E-Evacuation, P - Prepare for Possible action, I.O.- info only) X	Y	Z	NARS Form Section 8
1. Unusual Event	6.A - No Release	(1)	0	0	0	0	0	0	NORMAL CONTAINMENT RAD.	I.O.			(1) 8.A
	6.B or E - Potential or Stopped	(2)	<0.5	M	M	<2.5	M	M	<200	I.O.			(2) 8.A
	6.C or D - Imminent or Occurring	(3)	<0.5	M	M	<2.5	M	M	<200	I.O.			(3) 8.A
2. Alert	6.A - No Release	(1)	0	0	0	0	0	0	NORMAL CONTAINMENT RAD.	I.O.			(1) 8.A
	6.B or E - Potential or Stopped	(2)	<0.5	M	M	<2.5	M	M	<200	I.O.			(2) 8.A
		(3)	<1.0	<0.5	M	<5.0	<2.5	M	200 - 400	(P)	P)	P)	(3) 8.B
	6.C or D - Imminent or Occurring	(4)	Analysis Not Complete						<200	I.O.			(4) 8.A
		(5)	Analysis Not Complete						200 - 400	(P)	P)	P)	(5) 8.B
		(6)	<1.0	<0.5	M	<5.0	<2.5	M		(P)	P)	P)	(6) 8.B
3. Site Emergency	6.A - No Release	(1)	0	0	0	0	0	0	NORMAL CONTAINMENT RAD.	(P)	P)	P)	(1) 8.B
	6.B or E - Potential or Stopped	(2)	All Dose Situations			All Dose Situations			<2000	(P)	P)	P)	(2) 8.B
	6.C or D - Imminent or Occurring	(3)	Analysis Not Complete						<400	(P)	P)	P)	(3) 8.B
		(4)	Analysis Not Complete						400 - 2000	(S)	P)	P)	(4) 8.C&D
		(5)	<1.0	<0.5	M	<5.0	<2.5	M		(P)	P)	P)	(5) 8.B
		(6)	>1.0	<1.0	M	>5.0	<5.0	M		(E*)	S*)	P)	(6) 8.C,H&E
		(7)	>1.0	>1.0	<1.0	>5.0	>5.0	<5.0		(E*)	E*)	S)	(7) 8.C,H,I,&F

Foot Notes:

The symbol ( ))) represents the entire 0-2 mile area, and the 2-5 and 5-10 mile three downwind sectors.

R- Range (Miles)
SB-Site Boundary
M- Minimal

* Evacuation, when noted, is the recommended protective action only when weather conditions permit and an evacuation time analysis confirms it as the preferred choice, otherwise sheltering is the protective action to recommend. If evacuation is recommended for zonal areas Y and Z and if Zonal areas Y and Z are in Wisconsin or Iowa, then the recommendation for evacuation should extend only to the range at which the projected dose is 1 Rem WB or 5 Rem thyroid, whichever is the greater range. Sheltering is the protective action from this range out to 5 miles if the "range" is in Zone Y and out to 10 miles if it is in Zone Z..

** Projected actual doses are based on the actual or most likely release point and the existing site meteorological conditions. The zones X,Y, and Z are:

Recommended Protective Actions For Gaseous Release

Accident Classification	Release Situation (NARS Form Section 6)	Actual Projected Doses (Rem)** in Zonal Areas X, Y, & Z. Whole Body X	Y	Z	Thyroid X	Y	Z	Containment Radiation Level (R/Hr) When no Projected Doses are Available	Recommended Protective Actions (S-Shelter, E-Evacuation, P - Prepare for Possible action, I.O.- info only) X	Y	Z	NARS Form Section 8
4. General Emergency	6.A - No Release	(1) NOT APPLICABLE TO GENERAL EMERGENCY										
	6.B or E - Potential or Stopped	(2) All Dose Situations			All Dose Situations			>0	(S)	S)	P)	(2) 8.C,D & E
								>0	(E*)	S)	P)	(3) 8.C,H & E
	6.C or D - Imminent or occurring	(3) Analysis not complete							(S)	S)	P)	(4) 8.C,D & E
		(4) ≤1.0≤0.5	M		≤5.0≤2.5	M			(E*)	S)	P)	(5) 8.C,H & E
		(5) >1.0<1.0	M		>5.0<5.0	M			(E*)	E*)	S)	(6) 8.C,H,I&F
		(6) >1.0	>1.0	<1.0	>5.0	>5.0	<5.0		(E*)	E*)	E*)	(7) 8.C,H,I &J
		(7) >1.0	>1.0	>1.0	>5.0	>5.0	>5.0					

Foot Notes:

The symbol ( ))) represents the entire 0-2 mile area, and the 2-5 and 5-10 mile three downwind sectors.

R- Range (Miles)
SB-Site Boundary
M- Minimal

* Evacuation, when noted, is the recommended protective action only when weather conditions permit and an evacuation time analysis confirms it as the preferred choice, otherwise sheltering is the protective action to recommend. If evacuation is recommended for zonal areas Y and Z and if Zonal areas Y and Z are in Wisconsin or Iowa, then the recommendation for evacuation should extend only to the range at which the projected dose is 1 Rem WB or 5 Rem thyroid, whichever is the greater range. Sheltering is the protective action from this range out to 5 miles if the "range" is in Zone Y and out to 10 miles if it is in Zone Z..

** Projected actual doses are based on the actual or most likely release point and the existing site meteorological conditions. The zones X,Y, and Z are: X- SB ≤ R < 2 Miles; Y- 2 ≤ R < 5 Miles; Z- 5 ≤ R < 10 Miles.

TABLE 6.3-2

GSEP GUIDELINES FOR PROTECTION AGAINST INGESTION OF CONTAMINATION FOR THE OFFSITE PUBLIC

FOOD AND WATER CONTAMINATION

A. Derived Response Levels

		Preventive Action Levels*		
Nuclide**	Critical Organ	Milk/Water***	Total Intake via All Food and Water Pathways	Pasture Grass (Fresh weight)
I-131	Thyroid	0.012 uCi/l	0.09 uCi	0.27 uCi/kg
Cs-137	Whole Body	0.34 uCi/l	7 uCi	3.5 uCi/kg
Sr-90	Bone	0.007 uCi/l	0.2 uCi	0.7 uCi/kg
Sr-89	Bone	0.13 uCi/l	2.6 uCi	13 uCi/kg

*The preventive derived response action levels relate to a 1.5 rem projected dose commitment to the thyroid or to a 0.5 rem projected dose commitment to the whole body, bone, or any other organ. Emergency action levels are equal to ten (10) times the preventive levels and relate to either a 15 rem projected dose commitment to the thyroid or a 5 rem projected dose commitment to the whole body, bone, or any other organ.

**If other nuclides are present, use Regulatory Guide 1.109 to calculate the dose commitment to the critical organ(s). Infants are considered to be the critical segment of the population.

B. Recommended Protective Actions

Preventive Level Exceeded

- For pasture; remove lactating dairy cows from contaminated pasturage and substitute uncontaminated stored feed. Also, a substitute source of uncontaminated water.
- For milk; withhold milk from market to allow radioactive decay. Consider diversion of fluid milk for production of butter or evaporated milk.
- For fruits and vegetables; wash, brush, or scrub to remove contamination. Allow radioactive decay through canning, dehydration, or storage.
- For grains; mill and polish.

Emergency Level Exceeded

- Isolate food containing radioactive contamination to prevent its introduction into commerce and determine whether condemnation or another disposition is appropriate. Before taking this action, consider:

  --Availability of other possible actions;
  --Importance of particular foods in nutrition; and
  --Time and effort required to take action.

***The preventive action levels apply to water as well as milk; the protective action for water would be to use a suitable source of uncontaminated water.

TABLE 6.3-3
SUMMARY OF POSSIBLE OFFSITE PROTECTIVE ACTIONS
TO BE RECOMMENDED OR IMPLEMENTED DURING AN EMERGENCY+

ACCIDENT PHASE	EXPOSURE PATHWAY	EXAMPLES OF ACTION TO BE RECOMMENDED
[1]EMERGENCY PHASE (0.5 to 30 hours)*	Inhalation of gases, radioiodine, or particulate	Evacuation, shelter, access control, respiratory protection, prophylaxis (thyroid protection)
	Direct whole body exposure	Evacuation, shelter, access control
[2]INTERMEDIATE PHASE (30 hours to 30 days)*	Ingestion of milk	Take cows off pasture, prevent cows from drinking surface water, discard contaminated milk, or divert to stored products such as cheese
	Ingestion of fruits and vegetables	Wash all produce, or impound produce, delay harvest until approved, substitute uncontaminated produce
	Ingestion of water	Cut off contaminated supplies, substitute from other sources, filter, demineralize
	Whole body exposure and inhalation	Relocation, decontamination, access control
[3]LONG TERM PHASE (over 30 days)*	Ingestion of food and water contaminated from the soil either by resuspension or uptake through roots	Decontamination, condemnation, or destruction of food; deep plowing, condemnation, or alternate use of land
	Whole body exposure from deposition material or inhalation of resuspended material	Relocation, access control, decontamination, fixing of contamination, deep plowing

[1]Emergency phase - Time period of major release and subsequent plume exposure.

[2]Intermediate phase - Time period of moderate continuous releases with plume exposure and contamination of environment.

[3]Long Term Phase - Recovery period.

*"Typical" Post-accident time periods.

+Reference: USEPA "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," 1975.

ATTACHMENT D

Environmental/Emergency Coordinator's Checklist

This checklist is for the convenience of the Environmental/Emergency Coordinator. It is not necessary to adhere to the checklist item-by-item. It may serve as an aid for recording information during the recovery operation.

1. Reported to Recovery Manager and assumed control of the Emergency Control Center at Nearsite EOF at:

   Date:_____
   Time:_____

2. Established communication with the CCC Environmental Director at:

   Date:_____
   Time:_____

3. Established communication with the Environs Director at:

   Date:_____
   Time:_____

4. Established communications with offsite authorities at:

Agency Name	Date/Name Contacted
RAFT	
REAC	
DOE	

5. General notes on Recovery Activities:

DAY OFF SCHEDULE FOR

NAME

DATE

DAY

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
A										3	3	3	3	3	3	3		2	2	2	2	2	2	2			1	1	1	1	1	1	1
B			3	3	3	3	3	3	3		2	2	2	2	2	2	2	2			1	1	1	1	1	1	1						
C	3	3		2	2	2	2	2	2	2			1	1	1	1	1	1	1									3	3	3	3	3
D	2	2	2			1	1	1	1	1	1	1												3	3	3	3	3	3	3		2	2	2	2
E	1	1	1	1	1												3	3	3	3	3	3	3		2	2	2	2	2	2	2			1	1

MAN SCHEDULE

EOF-3 Revision 3 June 1982

ATTACHMENT E

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
A	2	2	2			1	1	1	1	1	1	1				3	3	3	3	3	3	3		2	2	2	2							
B	3			2	2	2	2	2	2	2			1	1	1	1	1	1	1				3	3	3	3	3	3						
C		3	3	3	3	3	3	3			2	2	2	2	2	2	2			1	1	1	1	1	1	1							
D	1	1	1	1	1				3	3	3	3	3	3	3			2	2	2	2	2	2	2			1	1					

MAN SCHEDULE

ATTACHMENT E

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1 = 12MN - 8A

2 = 8A - 4P

3 = 4P - MN

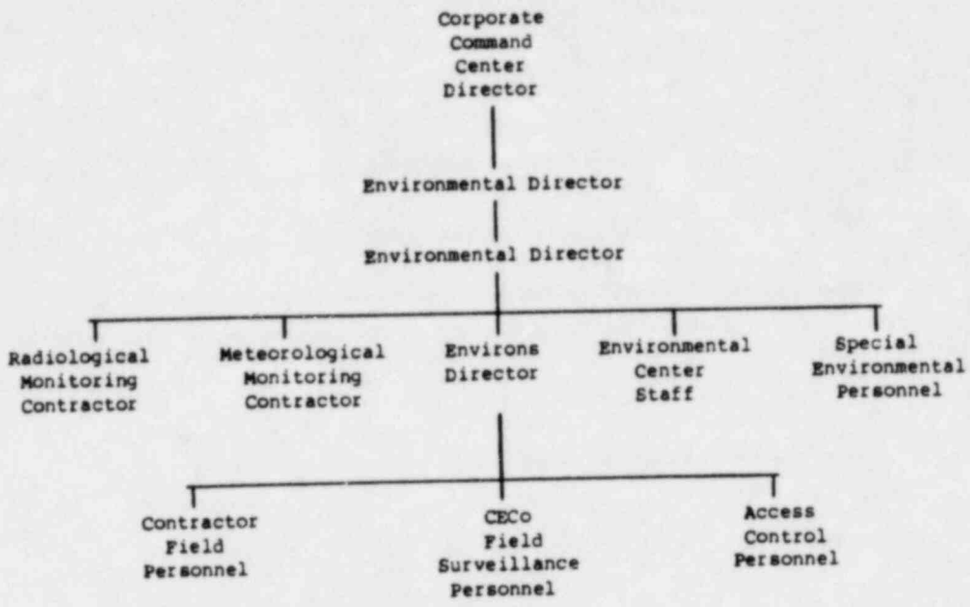
BLANK =

TY

Figure 1

ENVIRONMENTAL ORGANIZATION

A. If Emergency Operation Facility Is Not Activated



B. If Emergency Operations Facility Is Activated