

SOUTH CAROLINA ELECTRIC & GAS COMPANY

POST OFFICE 784

COLUMBIA, SOUTH CAROLINA 29218

O. W. DIXON, JR.
VICE PRESIDENT
NUCLEAR OPERATIONS

February 2, 1984

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Virgil C. Summer Nuclear Station
Docket No. 50/395
Operating License No. NPF-12
Emergency Plan Procedure
Revisions

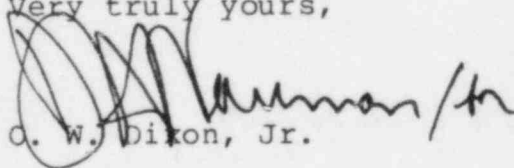
Dear Mr. Denton:

South Carolina Electric and Gas Company (SCE&G) acting for itself and as agent for South Carolina Public Service Authority (PSA) submits two (2) copies of the Revisions and Changes to the Emergency Plan Procedures (EPPs) as indicated below:

Table of Contents
LPP-002, Revision 9
EPP-005, Revision 6

If you have any questions, please contact us at your convenience.

Very truly yours,


O. W. Dixon, Jr.

OWD/fjc

c:	V. C. Summer	C. A. Price
	T. C. Nichols, Jr./O. W. Dixon, Jr.	C. L. Ligon (NSRC)
	E. H. Crews, Jr.	G. J. Braddick
	E. C. Roberts	D. J. Richards
	W. A. Williams, Jr.	NRC Resident Inspector
	D. A. Nauman	J. B. Knotts, Jr.
	J. P. O'Reilly (2 copies)	NPCF
	Group Managers	File
	O. S. Bradham	

ACAS
1/2

1/25/84

VIRGIL C. SUMMER NUCLEAR STATION
NUCLEAR OPERATIONS PROCEDURES

EMERGENCY PLAN PROCEDURES

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EPP-002	Communication and Notification	9	1/26/84
EPP-003	In-Plant Radiological Surveying	3	6/1/83
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EPP-010	Personnel/Vehicle Decontamination	3	11/9/83
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*EPP-012	Onsite Personnel Accountability & Evacuation	4	5/25/83
EPP-013	Fire Emergency	3	5/25/83
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EPP-015	Natural Emergency (Earthquake, Tornado)	3	11/9/83
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EPP-018	Emergency Training and Drills	3	11/10/83
EPP-019	Emergency Equipment Checklist	4	6/1/83
EPP-020	Emergency Personnel Exposure Control	3	11/14/83

* Safety Related Procedure

<u>PROCEDURE NUMBER</u>	<u>PROCEDURE TITLE</u>	<u>REVISION</u>	<u>DATE ISSUED</u>
EPP-021	Activation of the Early Warning Siren System (EWSS)	5	5/25/83
EPP-022	Verification of Communications Operability	2	5/25/83

SOUTH CAROLINA ELECTRIC AND GAS COMPANY

VIRGIL C. SUMMER NUCLEAR STATION

NUCLEAR OPERATIONS

NUCLEAR OPERATIONS

COPY No.....157.....

EMERGENCY PLAN PROCEDURE

EPP-002

COMMUNICATION AND NOTIFICATIONS

REVISION 9

DECEMBER 7, 1983

SAFETY RELATED

L. A. Blue
DISCIPLINE SUPERVISOR

1-25-84
Date

Os Bralham
APPROVAL AUTHORITY

1/25/84
Date

JAN 26 1984
DATE ISSUED

RECORD OF CHANGES

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WARNING MESSAGE: NUCLEAR FACILITY TO STATE/LOCAL GOVERNMENT

Part I

1. This is the Summer Nuclear Station.

2. My name is _____

This message (number _____):
_____(a) Reports a real emergency.
_____(b) Is an exercise message.

_____	Initial
_____	Follow-up
_____	Time message given

4. My telephone number/extension is: 345-5209 X-4227 or
345-2620.

5. You may call back at the end of the message for verification.

6. The class of the emergency is: _____ (a) Notification of Unusual Event
_____ (b) Alert
_____ (c) Site Emergency
_____ (d) General Emergency

7. This classification of emergency was declared at:
_____ (a.m./p.m.) on _____ (date).

8. The initiating event causing the emergency classification is: _____

9. The emergency condition: _____ (a) Does not involve the release of radioactive materials from the plant.
_____ (b) Involves the potential for a release, but no release is occurring.
_____ (c) Involves a release of radioactive material.

10. We recommend the following protective action:

_____ (a) No protective action is recommended at this time.
_____ (b) People living in zones _____ remain indoors with the doors and windows closed.

- _____ (c) People living in zones _____ evacuate their homes and businesses.
- _____ (d) Pregnant women and children in zones _____ remain indoors with the doors and windows closed.
- _____ (e) Pregnant women and children in zones _____ evacuate to the nearest reception center.
- _____ (f) Other recommendations: _____

11. There will be:

- _____ (a) A followup message
- _____ (b) No further communications

12. I repeat, this message:

- _____ (a) Reports an actual emergency
- _____ (b) Is an exercise message

13. Are there any questions?

*** Information for MEDIA COORDINATOR ONLY! ***

1. Plant Status

- a. tripped/controlled shutdown, rate _____, present pwr. level _____ %/continuing to operate at _____ %/operating at 100% power

2. RCS leakage?

- a. From _____
- b. To _____
- c. Where is leakage contained? _____

ANSWER ANY OTHER QUESTIONS THE MEDIA COORDINATOR HAS BUT ENSURE YOUR ANSWERS ARE CORRECT!!

INITIAL NOTIFICATION

UNUSUAL EVENT

<u>AGENCY/PERSONNEL</u>	<u>PAGER NUMBER</u>	<u>HOME</u>	<u>SITE</u>	<u>PERSON NOTIFIED</u>	<u>TIME</u>
1. Management Duty Supervisors (per Duty Roster)					
Ollie Bradham	603	798-1359	4040	_____	_____
John Connelly	613	798-2719	4257	_____	_____
Ken Woodward	663	798-7761	4220	_____	_____
Bruce Williams	623	8-9-359-4044	4221	_____	_____
Mel Browne	633	732-0897	4140	_____	_____
Mike Quinton	643	8-9-356-1980	4044	_____	_____
Bob Croley	653	781-7069	4042	_____	_____
2. *S.C. Dept. of Health & Environmental Control, Bureau of Radiological Health		758-5531 or 758-5548	N/A	_____	_____
3. Emerg. Preparedness Division		758-2826	N/A	_____	_____
4. *NRC	See Attachment IVA of EPP-002 for NRC Initial Notification				
5. Media Coord. (Mgr., Nuclear Info.)					
		<u>Home</u>	<u>Office</u>		
1) Becky McSwain	703	8-9-359-3510	5049	_____	_____
2) 1st Alt. - W. M. Lide, Jr.	703	772-1830	748-3420 771-6804	_____	_____
6. Site Services Manager-Bob Stough		781-8711 781-9128	345-5422	_____	_____
7. Institute of Nuclear Power Operations (INPO)		(404)953-0904 (404)953-0922	N/A	_____	_____
8. American Nuclear Insurers (ANI)	See Attachment IVB of EPP-002 for ANI Notification				

NOTIFICATIONS COMPLETE:

 CALLER'S SIGNATURE

 DATE

*Dedicated Line Also Exists.

INITIAL NOTIFICATION

EPP-002
ATTACHMENT IIIB
PAGE 1 OF 1
REVISION 9

ALERT

<u>AGENCY/PERSONNEL</u>	<u>PAGER NUMBER</u>	<u>HOME</u>	<u>SITE</u>	<u>PERSON NOTIFIED</u>	<u>TIME</u>
1. Management Duty Supervisors (per Duty Roster)					
Ollie Bradham	603	798-1359	4040	_____	_____
John Connelly	613	798-2719	4257	_____	_____
Ken Woodward	613	798-7761	4220	_____	_____
Bruce Williams	623	8-9-359-4044	4221	_____	_____
Mel Browne	633	732-0897	4141	_____	_____
Mike Quinton	643	8-9-356-1980	4044	_____	_____
Bob Croley	653	781-7069	4042	_____	_____

NOTE: To contact additional Emergency Response Personnel refer to Policy Memorandum No. 25.

- | | | | | | |
|---|--|--------------------------------|----------------------|-------|-------|
| 2. *S.C. Dept. of Health & Environmental Control, Bureau of Radiological Health | | 758-5531
or
758-5548 | N/A | _____ | _____ |
| 3. Emerg. Preparedness Division | | 758-2826 | N/A | _____ | _____ |
| 4. *NRC | See Attachment IVA of EPP-002 for NRC Initial Notification | | | | |
| 5. Media Coord. (Mgr., Nuclear Info.) | | <u>Home</u> | <u>Office</u> | | |
| 1) Becky McSwain | 703 | 8-9-359-3510 | 5049 | _____ | _____ |
| 2) 1st Alt. - W. M. Lide, Jr. | 703 | 772-1830 | 748-3420
771-6804 | _____ | _____ |
| 6. Site Services Manager-Bob Stough | | 781-8711
781-9128 | 345-5422 | _____ | _____ |
| 7. Institute of Nuclear Power Operations (INPO) | | (404)953-0904
(404)953-0922 | N/A | _____ | _____ |
| 8. Fairfield Pumped Storage Facility | | 345-5830 | N/A | _____ | _____ |
| 9. American Nuclear Insurers (ANI) | See Attachment IVB of EPP-002 for ANI Notification | | | | |

NOTIFICATIONS COMPLETE: _____ DATE _____
CALLER'S SIGNATURE

*Dedicated Line Also Exists.

INITIAL NOTIFICATION

"SITE EMERGENCY"

<u>AGENCY/PERSONNEL</u>	<u>PAGER NUMBER</u>	<u>HOME</u>	<u>SITF</u>	<u>NAME OF PERSON NOTIFIED</u>	<u>TIME</u>
1. Management Duty Supervisors (per Duty Roster)					
Ollie Bradham	603	798-1359	4040	_____	_____
John Connelly	613	798-2719	4257	_____	_____
Ken Woodward	663	798-7761	4220	_____	_____
Bruce Willliams	623	8-9-359-4044	4221	_____	_____
Mel Browne	633	732-0897	4141	_____	_____
Mike Quinton	643	8-9-356-1980	4044	_____	_____
Bob Croley	653	781-7069	4042	_____	_____

NOTE: To contact additional Emergency Response Personnel, refer to Policy Memorandum No. 25.

2. *S.C. Dept. of Health & Environmental Control, Bureau of Radiological Health		758-5531 or 758-5548	N/A	_____	_____
3. Emerg. Preparedness Division		758-2826	N/A	_____	_____
4. *NRC	See Attachment IVA of EPP-002 for NRC Initial Notification Requirements				
5. Media Coord. (Mgr., Nuclear Info.)		<u>Home</u>	<u>Office</u>		
1) Becky McSwain	703	8-9-359-3510	5049		
2) 1st Alt. - W.M. Lide, Jr.	703	772-1830	748-3420 771-6804	_____	_____
6. Site Services Manager - Bob Stough		781-8711 781-9128	345-5422	_____	_____
7. Institute of Nuclear Power Operations (INPO)		(404)953-0904 (404)53-0922	N/A	_____	_____
8. Fairfield Pumped Storage Facility		345-5830	N/A	_____	_____
9. American Nuclear Insurers	See Attachment IVB of EPP-002 for ANI Notification.				

NOTIFICATIONS COMPLETE:

*Dedicated Line Also Exists.

 Caller's Signature

 Date

INITIAL NOTIFICATION

"GENERAL EMERGENCY"

<u>AGENCY/PERSONNEL</u>	<u>PAGER NUMBER</u>	<u>HOME</u>	<u>SITE</u>	<u>NAME OF PERSON NOTIFIED</u>	<u>TIME</u>
1. Management Duty Supervisors (per Duty Roster)					
1) Ollie Bradham	603	798-1359	4040	_____	_____
2) John Connelly	613	798-2719	4257	_____	_____
3) Ken Woodward	663	798-7761	4220	_____	_____
4) Bruce Williams	623	8-9-359-4044	4221	_____	_____
5) Mel Browne	633	732-0897	4141	_____	_____
6) Mike Quinton	643	8-9-356-1980	4044	_____	_____
7) Bob Croley	653	781-7069	4042	_____	_____

NOTE: To contact additional Emergency Response Personnel, refer to Policy Memorandum No. 25.

2. *S.C. Dept. of Health & Environmental Control, Bureau of Radiological Health		758-5531 or 758-5548	N/A	_____	_____
3. *NRC	See Attachment IVA of EPP-002 for NRC Initial Notification Requirements				
4. Media Coord. (Mgr., Nuclear Info.)		<u>Home</u>	<u>Office</u>		
1) Becky McSwain	703	8-9-359-3510	5049		
2) 1st Alt. - W.M. Lide, Jr.	703	772-1830	748-3420 771-6804	_____	_____
5. Site Services Manager - Bob Stough		781-8711 781-9128	345-5422	_____	_____
6. Fairfield Pumped Storage Facility		345-5830	N/A	_____	_____
7. *Emergency Preparedness Division- Adjutant General's Office (State EOC)		758-2826	N/A	_____	_____

*Dedicated Line Also Exists.

NRC ONE HOUR
NOTIFICATION

The NRC shall be notified within 1 hour of Declaration of an
Emergency in accordance with Pages 2 through 4 of this
attachment.

	<u>NORMAL</u>	<u>EASY ACCESS</u>	<u>PERSON CONTACTED</u>
1. NRC - Bethesda, Md.	Dedicated Phone	N/A	_____
a)	Commercial telephone system to NRC Operations Center (Via Bethesda Central Office). (202) 951-0550 _____		
b)	NRC-Atlanta, Ga. (404) 221-4503 018 _____		
2. NRC - Resident Inspector		Yes _____ No _____	
Bill Hehl	<u>4027 (N.O. Ext)</u>	<u>(later)</u> Home Phone NC.	
	or <u>345-5683</u>	<u>748-5406</u> Beeper No.	

CALLERS SIGNATURE

DATE

TIME

NRC ONE HOUR NOTIFICATION

A. Identification:

TIME OF NOTIFICATION

This is the Summer Nuclear Plant in Region II.

My name is _____.

Our phone number is (803)345-5209 or (803)345-2620.

B. Event Classification:

We are now in a(n) _____

EVENT CLASSIFICATION

which was declared at _____.

TIME

C. REACTOR EVENT:

Power prior to event _____. Power at time of report _____.

Trip? _____ Initiating Signal _____

SI or ECCS? _____ Initiating Signal _____

ESF actuation? _____

D. EVENT DESCRIPTION AND CAUSE

Radioactive releases? (Quantify) _____

Other major problems _____

E. PLANT ACTIONS/PRESS RELEASES? _____

F. NOTIFICATIONS?

STATE _____ PLANT MGMT. _____

LOCALS _____ OTHER _____

NRC RESIDENT _____ OTHER _____

NRC ONE HOUR NOTIFICATION
Part II-Complete for all ALERT, SITE AREA, and GENERAL emergencies

Licensee Actions:

Taken _____
Planned _____
Property Damage _____

Radioactivity Released (or Increased Release):

Liquid/Gas? _____ Location/Source of Release _____ Elevation _____
Release Rate _____ Duration _____ Stopped? _____
Release Monitored? _____ Amount of Release _____
% Tech. Specs. _____

Increased Radiation Levels in a Plant: Location(s) _____
Radiation level(s) _____ Areas Evacuated _____
Maximum site boundary dose rates _____ Location _____
Integrated dose _____ Location _____

Meteorology:

Wind Direction from _____
Wind Speed _____ (Meter/sec or miles/hr)
T _____ (°C or °F) Temperature _____ (°C or °F)
Stability Class A B C D E F G
Raining (Yes/No) _____

<u>Projected Peak:</u>	<u>Dose Rates</u>	<u>Integrated Dose</u>
2 mi	_____ (WB/I)	_____ (WB/I)
5 mi	_____ (WB/I)	_____ (WB/I)
10 mi	_____ (WB/I)	_____ (WB/I)
Sectors	_____ (WB/I)	_____ (WB/I)

Contamination (Surface): inplant _____ onsite _____ offsite _____

Reactor Operations:

Reactor System Status _____ Power Level _____
Pressure _____ Temp _____ Flow (pumps on) _____
Cooling Mode _____ ECCS Operating/Operable _____

Containment Status

Containment Isolated? _____ Containment Temp _____
Containment Press _____ Containment Radiation _____ R/hr.
Leak Rate _____ R/hr.

Reactivity Control

Control Rods Inserted _____ Status of Emer. Boration System _____

INCIDENT NOTIFICATION INFORMATION
Part II

Steam Plant Status:

S/G Levels _____ Equip. Failures _____

Feedwater Source/Flow _____ S/G Isolated? _____

Electrical Dist. Status:

Normal Offsite Power _____ Available? _____

Major Busses/Loads Lost _____

D/G Running? _____ Loaded? _____

Security/Safeguards:

Bomb Threat: Search Conducted? _____

Search Results _____ Site Evacuated? _____

Extortion: Source (Phone, letter, etc.)? _____

Location of Letter _____

Intrusion: Insider? _____ Outsider? _____

Furthest Point of intrusion _____

Fire arms related? _____ Stolen/Missing Material? _____

Demonstration: Size of Group _____ Demands _____

Violence? _____ Fire arms related? _____

Sabotage/Vandalism: Radiological? _____ Arson Involved? _____

Stolen/Missing Material? _____

OFF-SITE EMERGENCY SERVICES

<u>AGENCY/PERSONNEL</u>	<u>PHONE</u>	<u>NAME OF PERSON NOTIFIED</u>	<u>TIME</u>
A. Company Physicians (Pinner Clinic)			
1) Carrol A. Pinner III M.D. - Primary	945-7475 (24 hrs.)		
2) Harriet E. Pinner, M.D. - 2nd Alternate	945-7475	_____	_____
B. Hospital Facilities			
1) Richland Memorial Hospital	765-7561	_____	_____
Give the following information:			
This is the Virgil C. Summer Nuclear Station.			
This is a Drill _____ This is not a Drill _____			
We have _____ contaminated/non-contaminated injured person being transported to your facility.			
Extent of injuries, as known _____			
2) Radiation Emergency Assistance			
Center Training Site (Reacts)	(615)576-3098	_____	_____
	(615)576-3131	_____	_____
	24 hour-(615)482-8502-Beeper 241	_____	_____
C. <u>Ambulance Service</u>			
1a) Emergency Medical Services of Fairfield County	635-5511 or 635-4661	_____	_____
1b) Alert MAST for standby transportation.	796-0036 or 796-0037	_____	_____
2) U.S. Army MAST Operations	796-0036 or 796-0037	_____	_____

NOTE: Alert Security of Emergency Vehicle arrival as soon as request(s) for Off-Site Emergency Services are completed.

Ext. 4290 _____
 or 4291 _____

OFF-SITE EMERGENCY SERVICES

<u>AGENCY/PERSONNEL</u>	<u>PHONE</u>	<u>NAME OF PERSON NOTIFIED</u>	<u>TIME</u>
-------------------------	--------------	--------------------------------	-------------

Give the following information for items 1a and 2 above.

This is a Drill _____ This is not a Drill _____

We have _____ contaminated/non-contaminated injured person(s) requiring transportation to Richland Memorial Hospital. (The ambulance must enter the site via the main gate, using (denote route to be taken) or the helicopter should land at the primary landing pad (denote route to be taken)

Extent of injuries, as known _____

D. NSSS Supplier/A.E.

<u>Title</u>	<u>Name</u>	<u>Office</u>	<u>Home</u>	<u>HHL</u>
1. Site Service Manager	Bob Stough	345-5422	781-8711	781-9128
Notes: (1) The area code of the above phone numbers is (803) (2) The phone beeper number is (803)-256-9965				
2. Operating Plant Service Manager	D.J. Richards	236-6491	327-8178	
1st Alternate	Tim Sullivan	256-7625	856-7562	
2nd Alternate	Rich Faix	256-3142	863-4665	
3. Service Response Manager	Tom Milto	256-3754	793-7512	795-2040
1st Alternate	Bob Stokes	256-5881	325-1128	327-8214
2nd Alternate	John Miller	256-5879	325-1157	327-8238
4. Emergency Response Director	Tom Anderson	256-7093	327-8289	327-7221
5. Emergency Response Deputy Director	Ron Lehr	256-5401	373-1699	856-7613
6. Emergency News Communications	Mike Mangan	373-4328	828-2543	828-0465

Note: Unless indicated otherwise, all phone numbers are area code 412. Where an area code other than 412 is shown, it applies to the office, home, and HHL numbers

2) GAI

(Normal Working Hours)

(215) 775-2600
 (215) 929-3880
 (215) 775-1293

OFF-SITE EMERGENCY SERVICES

<u>AGENCY/PERSONNEL</u>	<u>PHONE</u>	<u>NAME OF PERSON NOTIFIED</u>	<u>TIME</u>
E. Fire Services	635-5511		
1) Fairfield County Fire Services			
Give the following information:			
This is the Virgil C. Summer Nuclear Station.			
This is a Drill _____ This is not a Drill _____			
We request fire fighting assistance at the Summer Nuclear Station. The fire truck must enter via the main gate, using (denote route to be taken)			
F. Local Law Enforcement	635-5511 or 635-2931 (off-normal hours) 635-4141		
G. National Weather Service (Backup to Load Dispatcher for weather information).			
1) Columbia -	794-2593 or 796-4473 765-5501		

SOUTH CAROLINA ELECTRIC AND GAS COMPANY

VIRGIL C. SUMMER NUCLEAR STATION

NUCLEAR OPERATIONS

NUCLEAR OPERATIONS

COPY No. 157

EMERGENCY PLAN PROCEDURE

EPP-005

OFFSITE DOSE CALCULATIONS

REVISION 6

DECEMBER 7, 1983

SAFETY RELATED

L. G. Blue
DISCIPLINE SUPERVISOR

1-11-84
Date

J. B. Bradham
APPROVAL AUTHORITY

1/11/84
Date

JAN 24 1984
DATE ISSUED

RECORD OF CHANGES

CHANGE NO.	TYPE CHANGE	DATE APPROVED	DATE CANCELLED	CHANGE NO.	TYPE CHANGE	DATE APPROVED	DATE CANCELLED

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RECOMMENDED PROTECTIVE ACTIONS TO REDUCE WHOLEBODY AND THYROID DOSE FROM EXPOSURE TO A GASEOUS PLUME

Projected Dose (Rem) to the Population	(a) Recommended Actions	Comments
Wholebody < 1 Thyroid < 5 Particulate < 1.5×10^{-7} Ci/ml	(b) No planned protective actions. State may issue an advisory to seek shelter and await further instruction. Monitor environmental radiation levels.	Previously recommended protective actions may be reconsidered or terminated.
Wholebody 1 to < 5 Thyroid 5 to < 25 Particulate 1.5 to < 7.5×10^{-7} $\frac{\mu\text{Ci}}{\text{ml}}$	Seek shelter as a minimum. Consider evacuation. Evacuate unless constraints make it impractical. SEE PAGE 2 OF 2. Monitor environmental radiation levels Control access.	If constraints exist, special consideration should be given for evacuation of children and pregnant women.
Wholebody 5 and above Thyroid 25 and above Particulate 7.5×10^{-7} $\frac{\mu\text{Ci}}{\text{ml}}$ and above	Conduct mandatory evacuation. SEE PAGE 2 OF 2. Monitor environmental radiation levels and adjust area for mandatory evacuation based on these levels. Control access.	Seeking shelter would be an alternative if evacuation were not immediately possible
Projected Dose (Rem) to Emergency Team Workers		
Wholebody 25	Control exposure of emergency team members to these levels except for lifesaving missions. (Appropriate controls for emergency workers, include time limitations, respirators and stable iodine.)	Although respirators and stable iodine should be used where effective to control dose to emergency team workers, thyroid dose may not be a limiting factor for lifesaving missions.
Wholebody 100	Control exposure of emergency team members performing lifesaving missions to this level. (Control of time of exposure will be most effective.)	

(a) These actions are recommended for planning purposes. Protective action decisions at the time of the incident must take existing conditions into consideration.

(b) At the time of the incident, officials may implement low-impact protective actions in keeping with the principle of maintaining radiation exposures as low as reasonably achievable.

ESTIMATED EVACUATION TIMES FOR EMERGENCY
 PLANNING ZONES

Recommend evacuation of the public within a zone when projected doses are 1 Rem or greater whole body, or 5 Rem or greater thyroid, unless restraints make evacuation impractical.

If the plume will arrive within the zone before evacuation can be completed, recommend sheltering.

<u>ZONE</u>	<u>ESTIMATED POPULATION</u>	<u>EVACUATION TIMES (MINUTES)</u>	
		<u>AVERAGE WEATHER</u>	<u>ADVERSE WEATHER</u>
A-0	312	138	167
A-1	396	166	199
A-2	960	149	199
B-1	284	142	166
B-2	528	112	128
C-1	304	132	155
C-2	832	112	128
D-1	816	116	135
D-2	712	107	121
E-1	668	137	165
E-2	2524	153	182
F-1	268	133	158
F-2	800	138	162